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Watershed Data Base: South Thompson River

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Canadian Data Report of Fisheries and Aquatic Sciences

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ABSTRACT

Brown, T. G., W. Mackenzie, L. Walthers, B. A. York and I. V. Williams. 1989. Watershed data base: South Thompson River. Can. Data Rep. Fish. Aquat. Sci. 772: 121 p.

Catalogue of 55 drainages entering the South Thompson River. Information provided includes: location, physical characteristics, forest cover, tenure status, biogeoclimatic variants and relative abundance of salmonid species. This catalogue was designed to provide a single source of the information considered essential to initiate practical study designs for future fish/forestry research.

RÉSUMÉ

Brown, T. G., W. Mackenzie, L. Walthers, B. A. York and I. V. Williams. 1989. Watershed data base: South Thompson River. Can. Data Rep. Fish. Aquat. Sci. 772: 121 p.

Le catalogue contient la description de 55 canaux de drainage qui se jettent dans la rivière Thompson-sud. On y trouve des renseignements sur les aspects suivants: endroit, caractéristiques physiques, couverture forestière, tenures, variantes biogéoclimatiques et abondance relative des espèces de salmonidés. Ce catalogue a été conçu en vue de réunir en un seul ouvrage tous les renseignements jugés essentiels pour élaborer des projets de recherche sur les poissons ou la sylviculture.

INTRODUCTION

British Columbia's interior watersheds support both fish and forest based resource values. Forest activities such as road construction, timber removal, and silvicultural practises have the potential of impacting salmonid production. It is essential that basic forestry related information be made available on a watershed by watershed basis. This report integrates an individual watershed's physical characteristics with its logging history and salmonid escapements. Information on fifty-five watersheds located within the South Thompson River drainage system was collected (Fig. 1).

A data base formatted in this manner provides a single source of information which aids habitat research and management, specifically fish/forestry research. Sound, practical study designs can be formulated and stream study pairs or watersheds having a variety of harvesting dates can be identified quickly.

The watersheds listed within this report can be subjectively grouped based on their similar features. Management decisions can be based on those features of a watershed which have been deemed to cause a known response in another similar featured watershed. Groups of watersheds that may be subjected to similar forestry practices in the near future (e.g. harvesting of second growth timber) can be identified and decisions can be made on a group of watersheds rather than on single watersheds.

This report was designed to be a general over-view of the area examined. Information contained within this report varies in its accuracy depending on its sources. Specific variables have been measured to varying degrees of precision from watershed to watershed. A considerable number of the watersheds examined have unknown fish values. It is hoped that as information becomes available, it can be added to this report.

INFORMATION SOURCES

Information and data contained within this report were obtained from the following sources:

1. General information on stream location, orientation and physical characteristics were obtained from topographical maps supplied by Surveys and Resource Mapping Branch, Ministry of Environment and Parks, Parliament Buildings, Victoria. A scale of 1:50,000 was used in most cases.
2. Forest cover information, including: date and area of cut or re-establishment of stands, tenure status, and length of roads were obtained from forest cover maps supplied by B. C. Forest Service (scale 1:20 000) and by Clearwater Timber Products (scale 1:10 000). All estimates of area were obtained with a polar compensating planimeter.
3. A map entitled "Biogeoclimatic Zones of British Columbia 1988" supplied by the Province of British Columbia, Ministry of Forests was used to establish the primary and secondary biogeoclimatic zones of each watershed.
4. Salmonid escapements were estimated from existing fisheries escapement records, from publications containing escapement values (Brown et al. 1979), and through consultation with fisheries officers.

STANDARDS USED

LOCATION AND ACCESS INFORMATION

Each watershed's location, study accessibility, map reference numbers and tenure status is recorded in Table 1. The column labels correspond to:

1. NO — Number given to each watershed, based on alphabetical order of stream name.
2. NAME — Name as given by Brown et al. 1979.
3. RIVER — If a named watershed is a tributary of another river, then that river is given under this heading.

4. LAT — The latitude of the most downstream section of a watershed.

5. LONG — The longitude of the most downstream section of a watershed.

6. CODE — The numbers 0 to 4 indicate the relative ability of persons to enter and travel within a watershed. These numbers correspond to:

VALUE	DESCRIPTION
0	No roads entering watershed and no roads within watershed. Access is by boat or hiking only.
1	No roads entering watershed. Only a small portion of the watershed is serviced by an isolated road within the watershed.
2	No roads entering watershed, however, most of the watershed is serviced by isolated roads within the watershed.
3	Good access to at least on location within the watershed by road, but only a small portion of the watershed is accessible.
4	Good access to the watershed and good access throughout the entire watershed by road.

7. TOPO — The serial number of main topographic map on which the named creek or river can be located.

8. COVER — The serial number of the main forest cover map on which the named creek or river can be located.

9. TFL — The percentage of the area within a watershed which is considered to be Tree Farm Licence. Within the South Thompson Drainage all land designated as T.F.L. will be located within T.F.L. 18 administered by Clearwater Timber Products.

10. DEED — This designation includes all privately owned land including mineral leases, and lands considered parks. The status of forest cover and cutting histories are unknown.

11. INDIAN — This designation includes the percentage of a watershed which is Indian Reserve. If an Indian Reserve is located within a watershed and is less than 1% of that watersheds total area, it is still designated as 1%. The status of forest cover and cutting histories are unknown.

12. TSA — This designation includes all forest land other than those considered to be Tree Farm Licences. Timber Supply Areas, are administered by the B. C. Forest Service.

PHYSICAL VARIABLES

The physical characteristics of each of the watersheds are outlined in Table 2. The column labels correspond to:

1. NO — As indicated.

2. NAME — As indicated.

3. ORIENTATION — General compass direction from upper elevation to lower elevation. Thus, a stream which has its headwaters in the north and estuary in the south would be described as "N-S".

4. PRIMARY — A biogeoclimatic zone portrays the relationship between ecosystems and climate. Watersheds with similar biogeoclimatic zones will have a similar climate and a similar vegetative association at climax.

ZONES	SYMBOL
Interior Douglas Fir	ICH
Interior Cedar - Hemlock	ICH
Engelmann Spruce -Subalpine Fir	ESSF

5. SECONDARY A biogeoclimatic zone which covers a smaller percentage of the watershed then does the primary biogeoclimatic zone.
6. DRAINAGE Watershed area including lakes, given in km^2.
7. LAKE AREA Area of all lakes in km^2.
8. TOTAL Total length of a stream or river, in km, estimated from forest cover maps.
9. ACCESS Length of stream or river, in km, that is accessible to anadromous fish.
10. GRAD Gradient of stream within accessible length was calculated from topographic maps.
11. MAX The highest point within a watershed in meters.
12. ORDER The stream order of the watershed.
13. TRIBS The number of tributaries within the accessible length.

FORESTRY AND FISHERIES INFORMATION

The location of all 55 watersheds is indicated in Figure 1. Forestry and fisheries resource information is illustrated for each watershed (Appendix I). A description of each of the charts and graphs is given below.

1. CUT HISTORY (Bar Graph)

Year of harvest or year of re-establishment of forest cover is indicated as both number of hectares cut and by percentage of the entire watershed affected.

2. PERCENT OF WATERSHED (Pie Chart)

The percentages of the watershed which should be represented by a specific successional stage were calculated from forest cover maps. These are as follows:

AGE	STAGE
0 - 15	Recent Clear-cut
6 - 15	Early Successional
16 - 30	Young Immature Poles
31 - 50	Pre-Commercial Poles
51 +	Second Growth
Uncut	Old Growth

3. FISH SPECIES (Bar Graph)

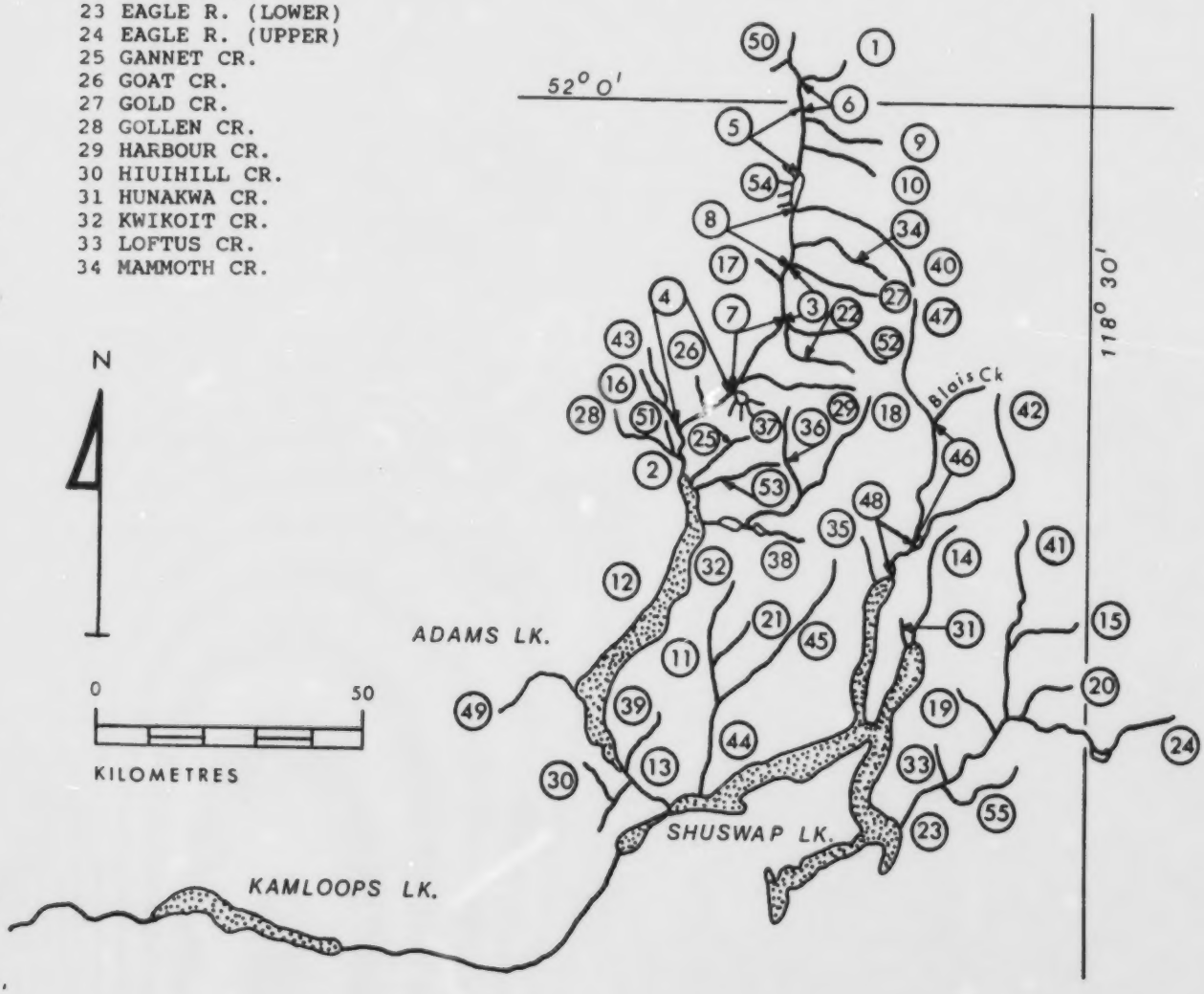
The escapement values for each of the five Pacific Salmon species and Steelhead trout are indicated. The population size index, refers to:

INDEX VALUE	DESCRIPTION
0	No fish observed
1	Present some years only
2	1 - 100
3	100 - 1,000
4	1,000 - 10,000
5	+ 10,000

REFERENCES

Brown, R.F., M.M. Musgrave, and D.E. Marshall. 1979. Catalogue of Salmon Streams and Spawning Escapements for Kamloops Sub-District. Fisheries and Marine Service Data Report No. 151. 226pp.

1 ADAMS, UP (ABOVE STORM CREEK)
2 ADAMS, UP (BURTON CR - ADAMS LK)
3 ADAMS, UP (GOLD CR - SUNSET CR)
4 ADAMS, UP (MICA LK - BURTON CR)
5 ADAMS, UP (ROAD XING - TUMTUM LK)
6 ADAMS, UP (STORM CK - ROAD XING)
7 ADAMS, UP (SUNSET CR - MICA LK)
8 ADAMS, UP (TUMTUM LK - GOLD CR)
9 ADAMS, UP. TRIB AT ROAD XING
10 ADAMS, UP. TRIB OF TUMTUM LK
11 ADAMS LK (EAST)
12 ADAMS LK (WEST)
13 ADAMS R., LOWER
14 ANSTEY R.
15 BEWS CR.
16 BURTON CR.
17 CAMP SIX CR.
18 CAYENNE CR.
19 CRAIGELLACHIE CR.
20 CRAZY CR.
21 CROSS CR.
22 DUDGEON CR.
23 EAGLE R. (LOWER)
24 EAGLE R. (UPPER)
25 GANNET CR.
26 GOAT CR.
27 GOLD CR.
28 GOLLEN CR.
29 HARBOUR CR.
30 HIUIHILL CR.
31 HUNAKWA CR.
32 KWIKOIT CR.
33 LOFTUS CR.
34 MAMMOTH CR.
35 MCNOMEE CR.
36 MEADOW CR.
37 MICA LK. DRAINAGE
38 MOMICH R.
39 NIKWIKWAIA CR.
40 OLIVER CR.
41 PERRY R.
42 RATCHFORD CR.
43 ROBERT CR.
44 SCOTCH CR. (LOWER)
45 SCOTCH CR. (UPPER)
46 SEYMOUR R. (BLAIS - RATCHFORD CR)
47 SEYMOUR R. (HEAD WATER - BLAIS CR)
48 SEYMOUR R. (RATCHFORD - SHUSWAP)
49 SINMAX CR.
50 STORM CR.
51 STRATTON CR.
52 SUNSET CR.
53 TSIKWASTUM CR.
54 TUMTUM LK DRAINAGE
55 YARD CR.



ADAMS, UP (ABOVE STORM CREEK)

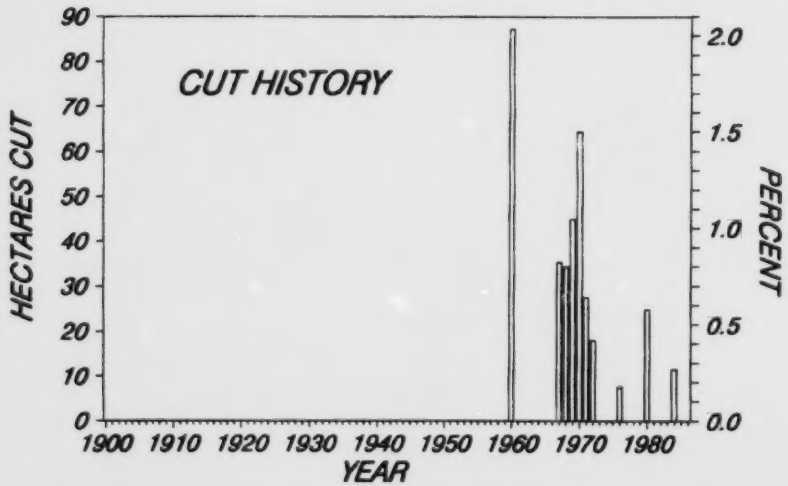
UNLOGGED

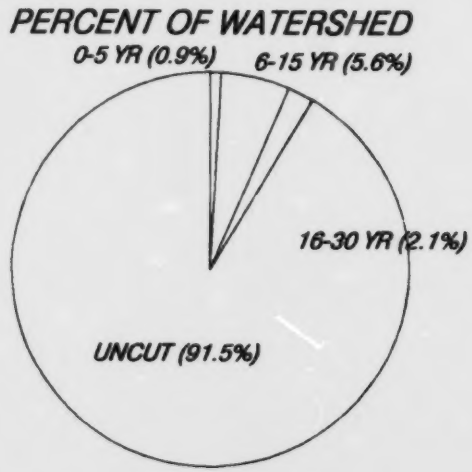
Fig. 1. Adams River, upper (above Storm Creek).

New bridge across Storm Creek, built in 1989, has improved access to upper Adams River. Logging commenced in winter 1989. Fish escapement values are lacking, no reports of salmon have been made, however no blockages to salmon migration are known. The tributaries of the upper Adams River are some of the few unlogged drainages on the South Thompson Drainage.

FISH STATUS UNKNOWN

ADAMS, UP (BURTON CREEK - ADAMS LAKE)





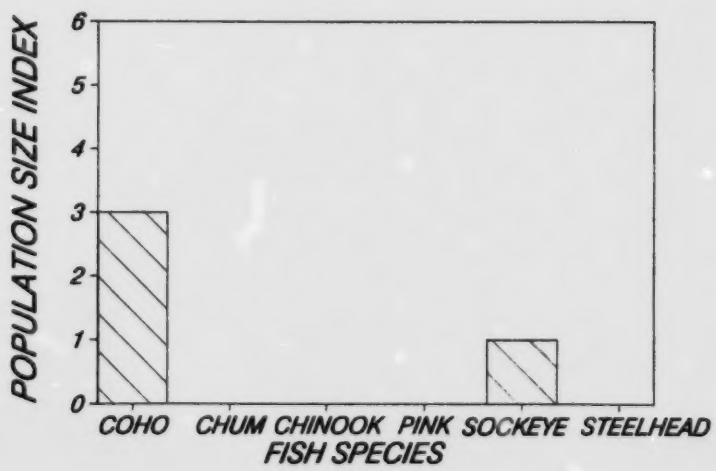


Fig. 2. Adams River, upper (Burton Creek-Adams Lake). All salmon entering upper Adams Lake pass through this region. Coho are present and sockeye escapement is very cyclical. From 1984 to 1988 sockeye eggs have been out-planted, brood stocks were taken from Cayenne Creek. Historic escapement was much higher and logging splash dams may have been responsible for the decline.

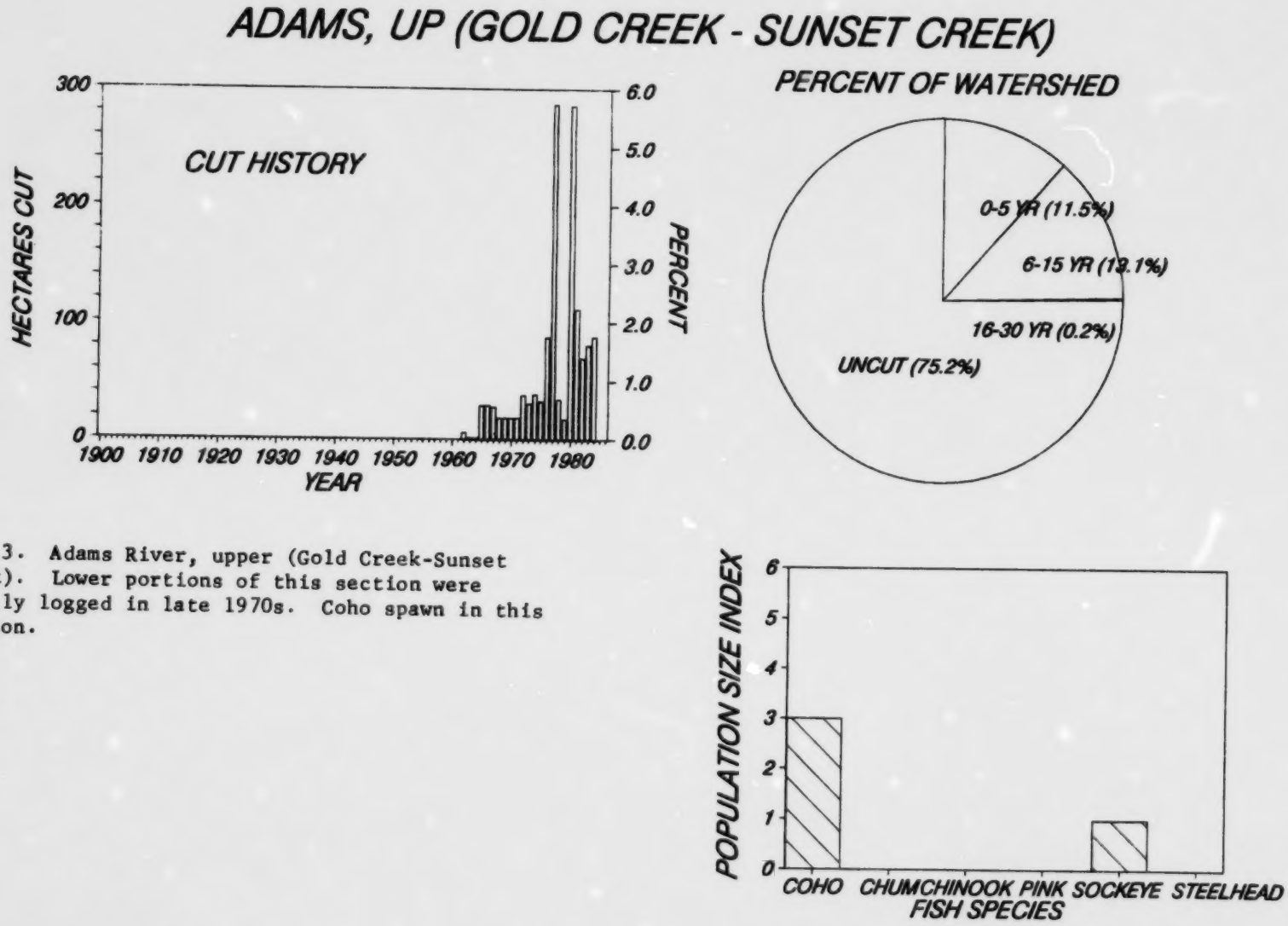
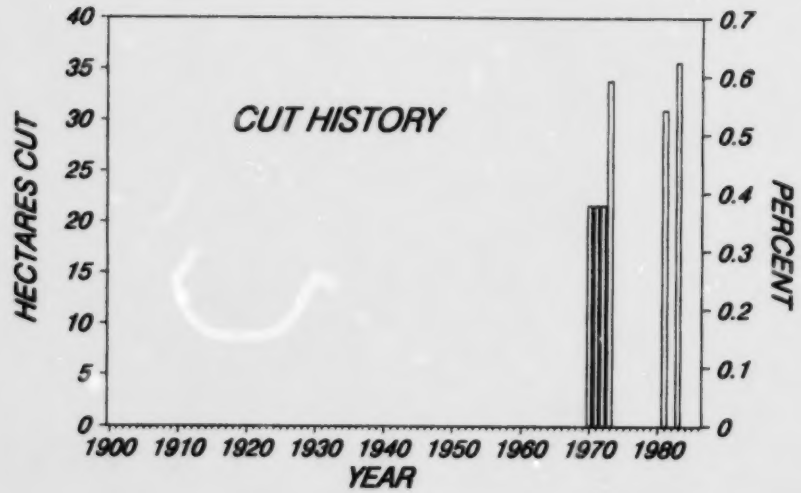
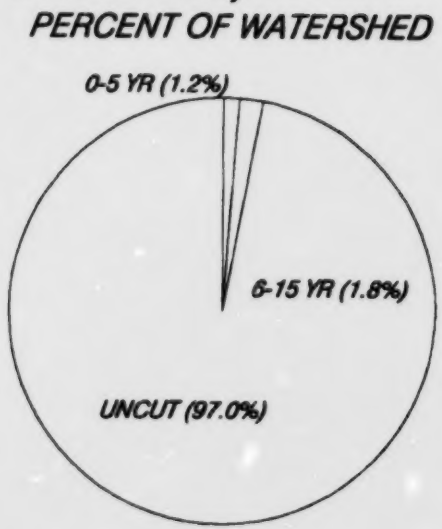


Fig. 3. Adams River, upper (Gold Creek-Sunset Creek). Lower portions of this section were heavily logged in late 1970s. Coho spawn in this section.

ADAMS, UP (MICA LAKE - BURTON CREEK)





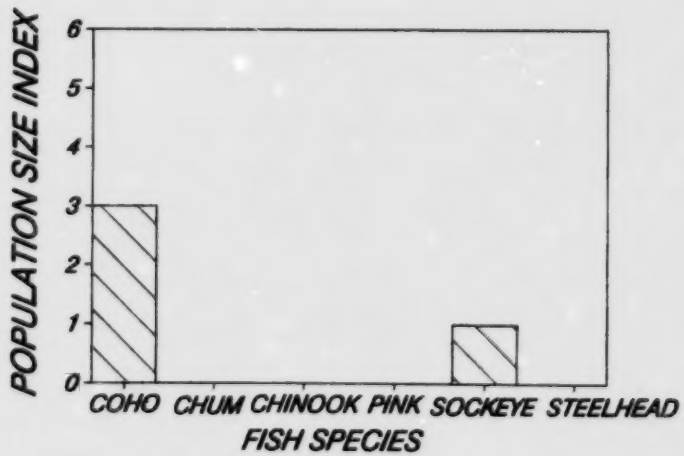
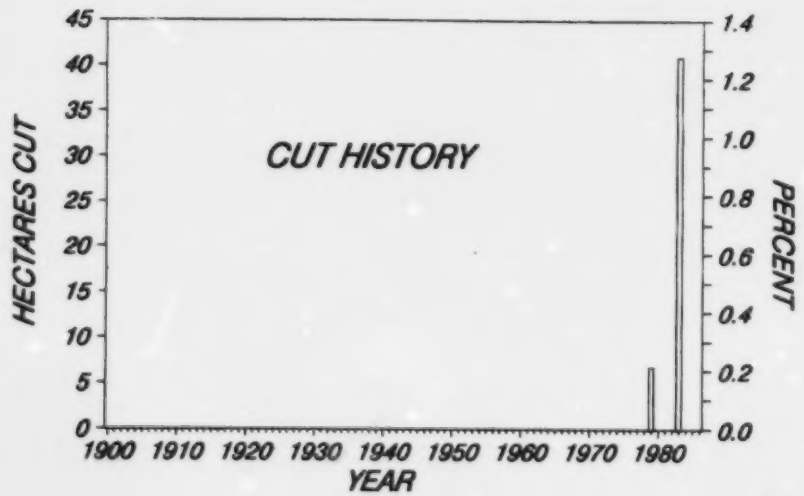
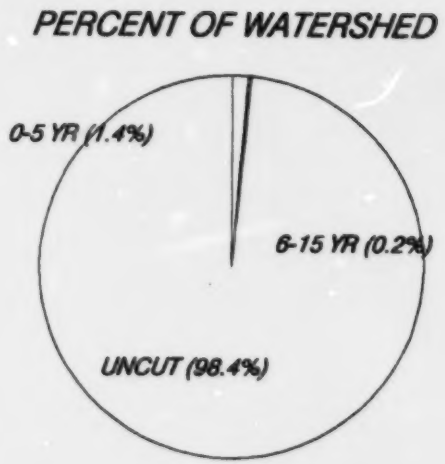


Fig. 4. Adams River, upper (Mica Lake-Burton Creek). Sockeye egg and fry out-plants have taken place (1984-1988) with brood stocks taken from Cayenne Creek. Sockeye returns are highly cyclical and range from 0 to 150.

ADAMS, UP (ROAD XING - TUMTUM LAKE)





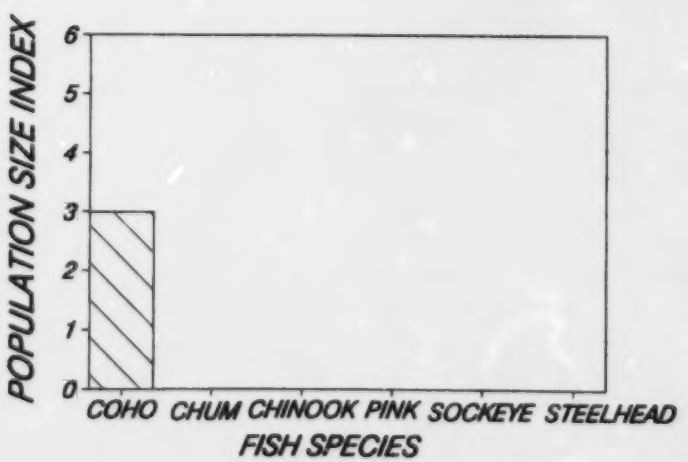


Fig. 5. Adams River, upper (Road Crossing-Tumtum Lake). This section of the river was examined by fishery officers using snorkel. Only coho spawners were noted with escapement estimated to be from 300 to 500.

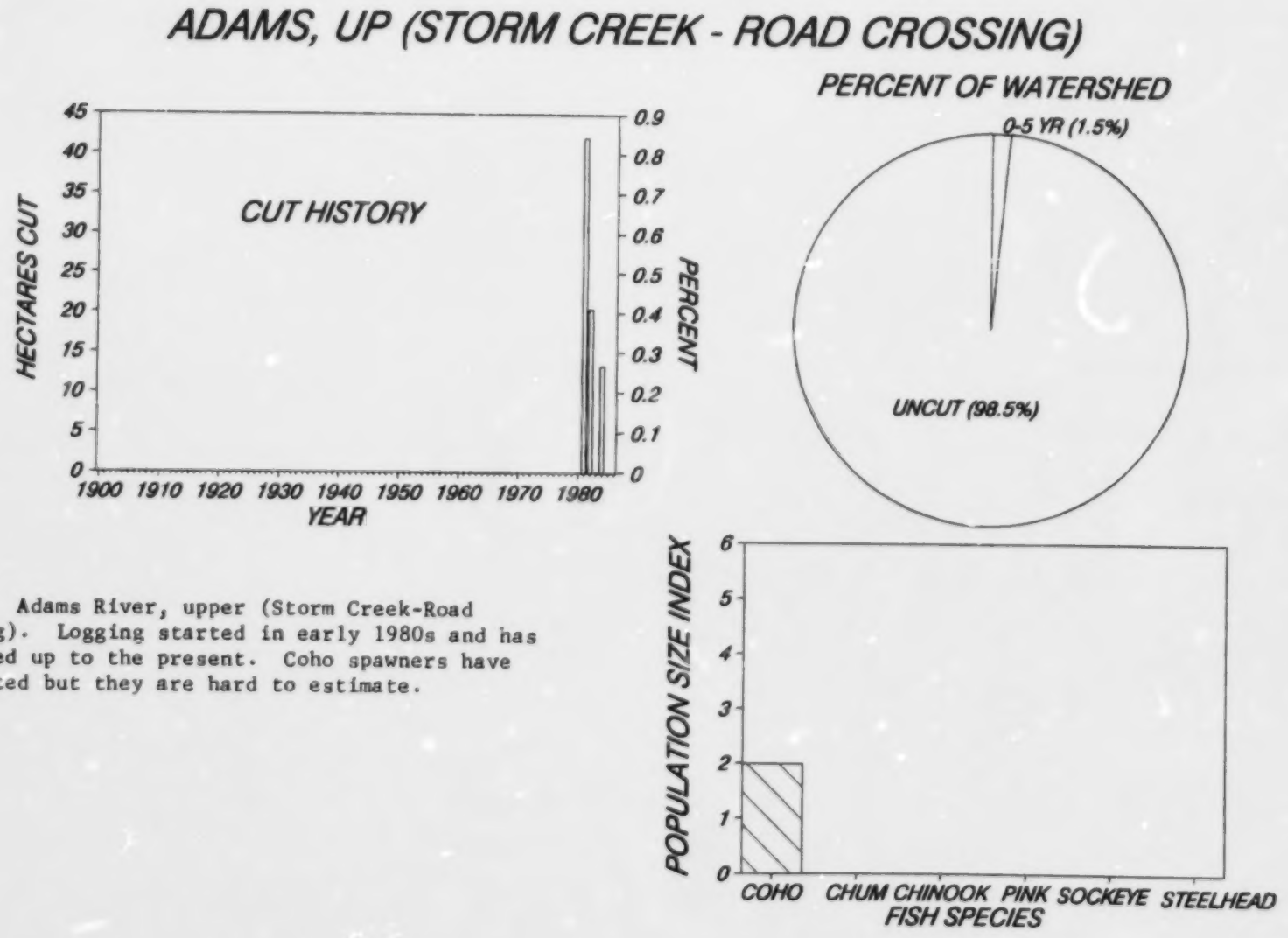


Fig. 6. Adams River, upper (Storm Creek-Road Crossing). Logging started in early 1980s and has continued up to the present. Coho spawners have been noted but they are hard to estimate.

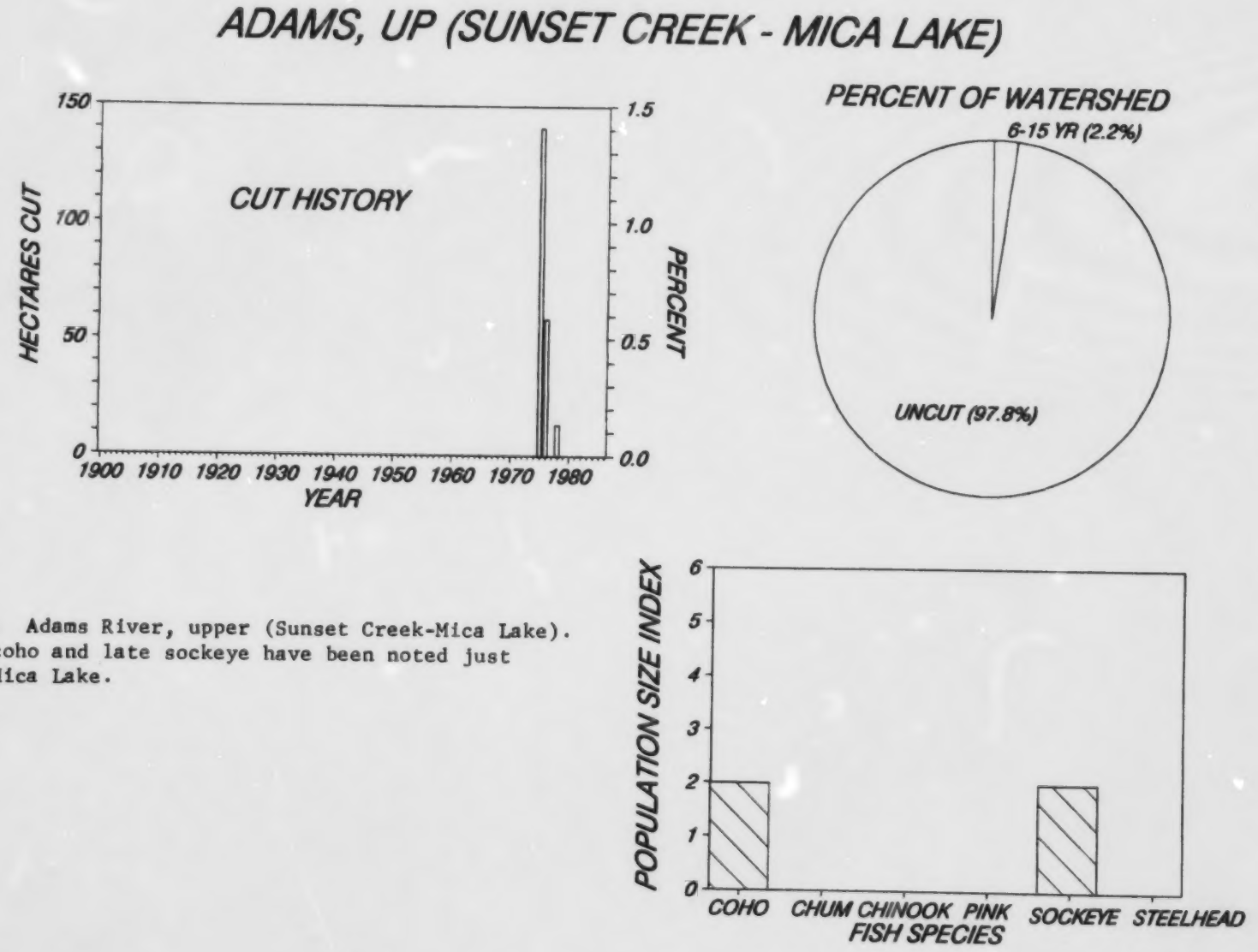
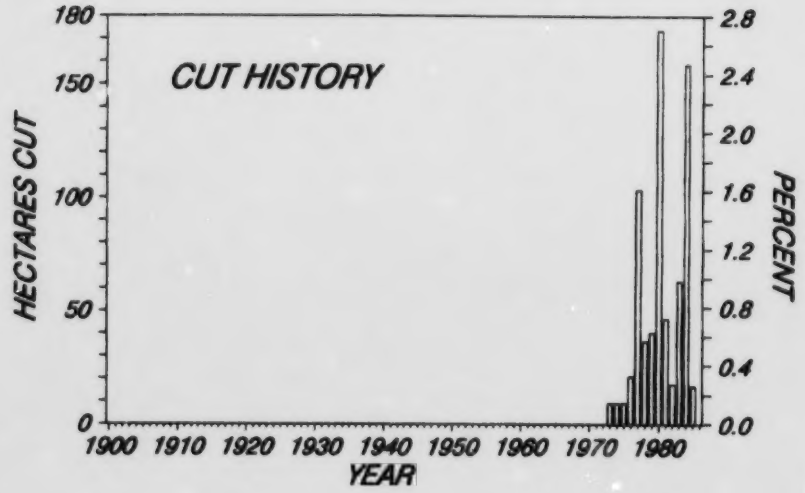
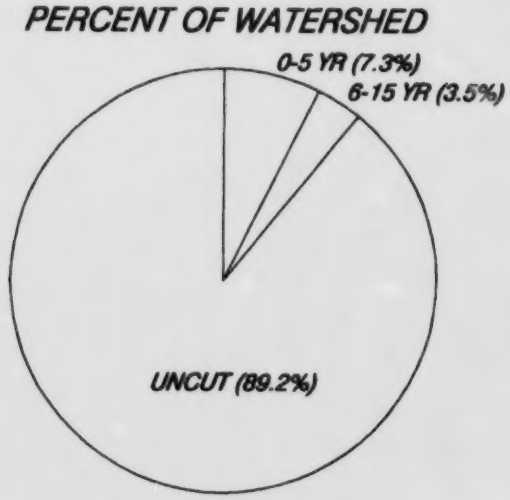


Fig. 7. Adams River, upper (Sunset Creek-Mica Lake). A few coho and late sockeye have been noted just above Mica Lake.

ADAMS, UP (TUMTUM LAKE - GOLD CREEK)





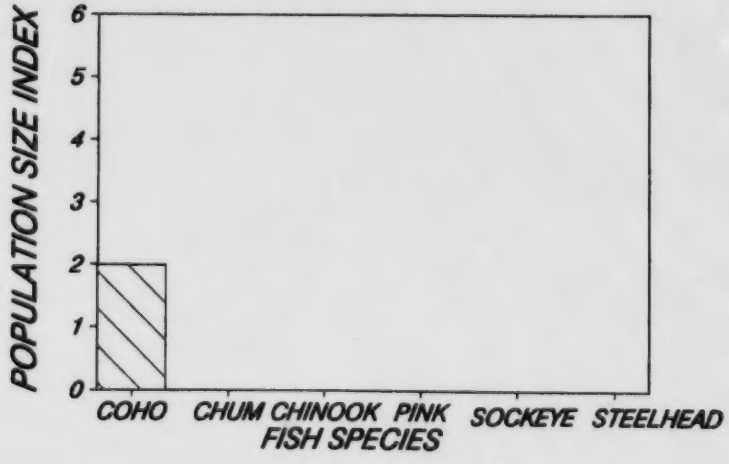


Fig. 8. Adams River, upper (Tumtum Lake-Gold Creek). Due to glacial fines and poor visibility, fish escapement in this section of the river is hard to estimate. Active logging has taken place during the last 10 years.

ADAMS, UP TRIBUTARY (AT ROAD CROSSING)

UNLOGGED

Fig. 9. Adams River, Upper (tributary at road crossing).

No roads have been built as gradient too steep. No salmon can use this watershed as stream is inaccessible and channel is bouldery.

NO SALMON

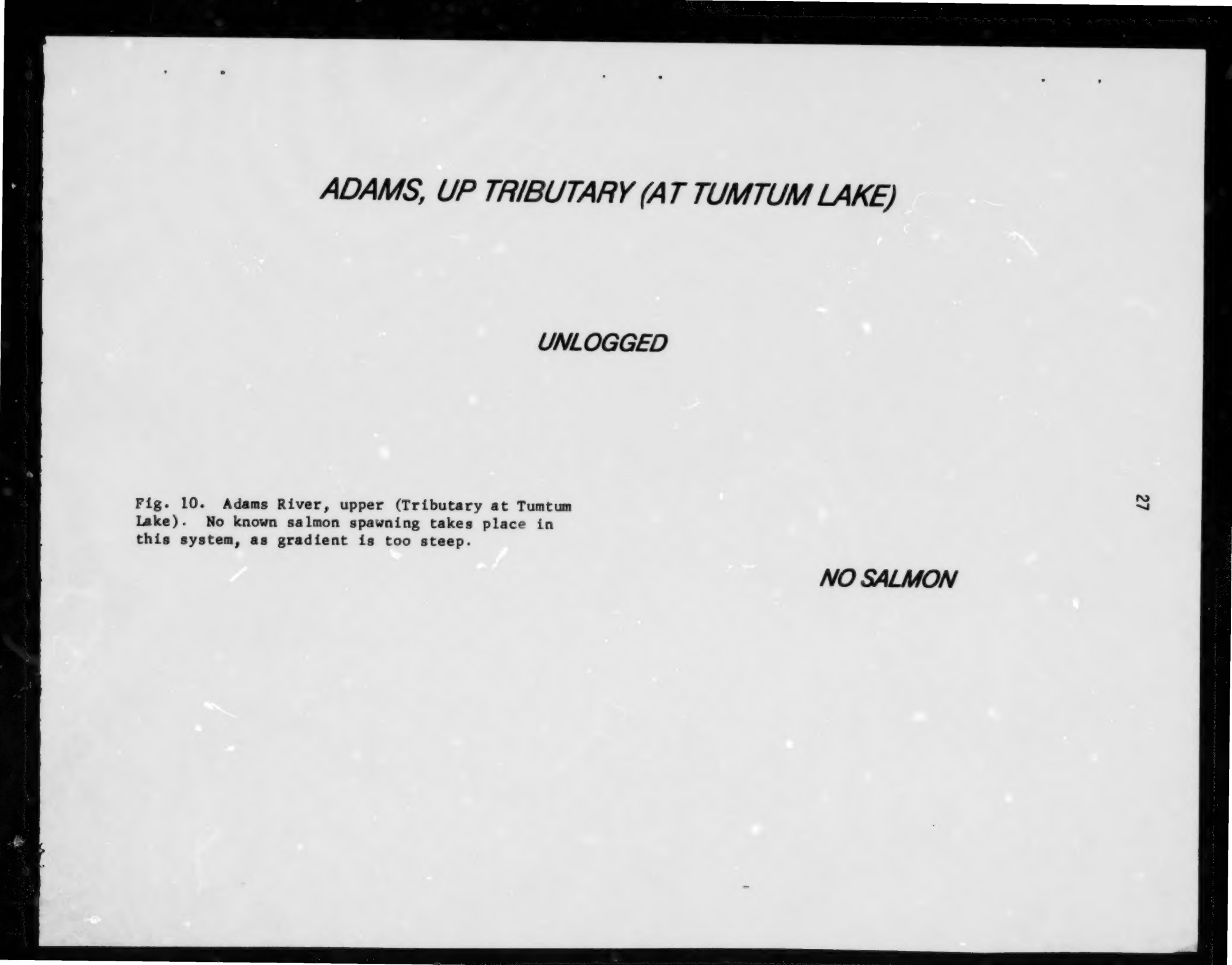


Fig. 10. Adams River, upper (Tributary at Tumtum Lake). No known salmon spawning takes place in this system, as gradient is too steep.

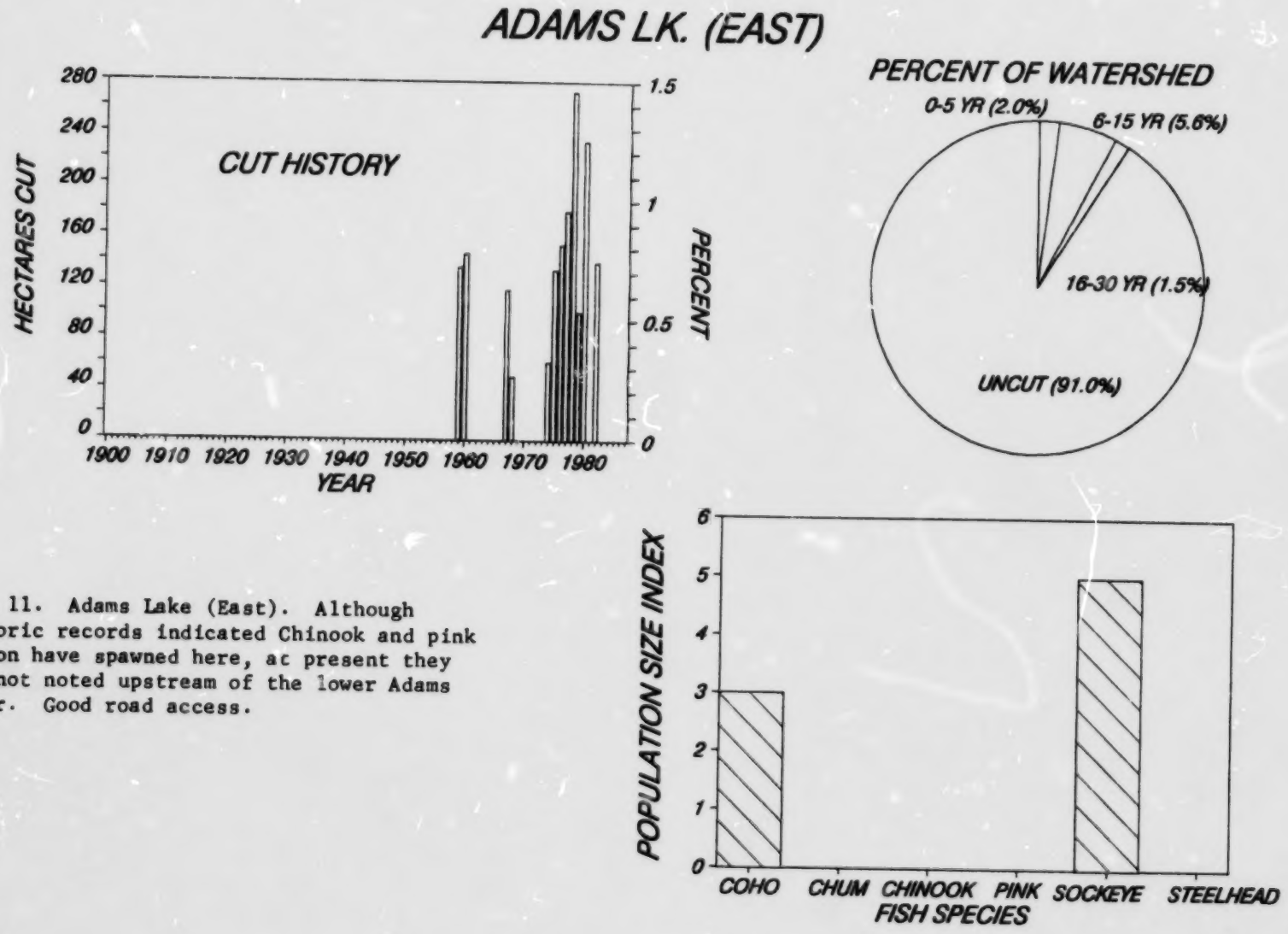


Fig. 11. Adams Lake (East). Although historic records indicated Chinook and pink salmon have spawned here, at present they are not noted upstream of the lower Adams River. Good road access.

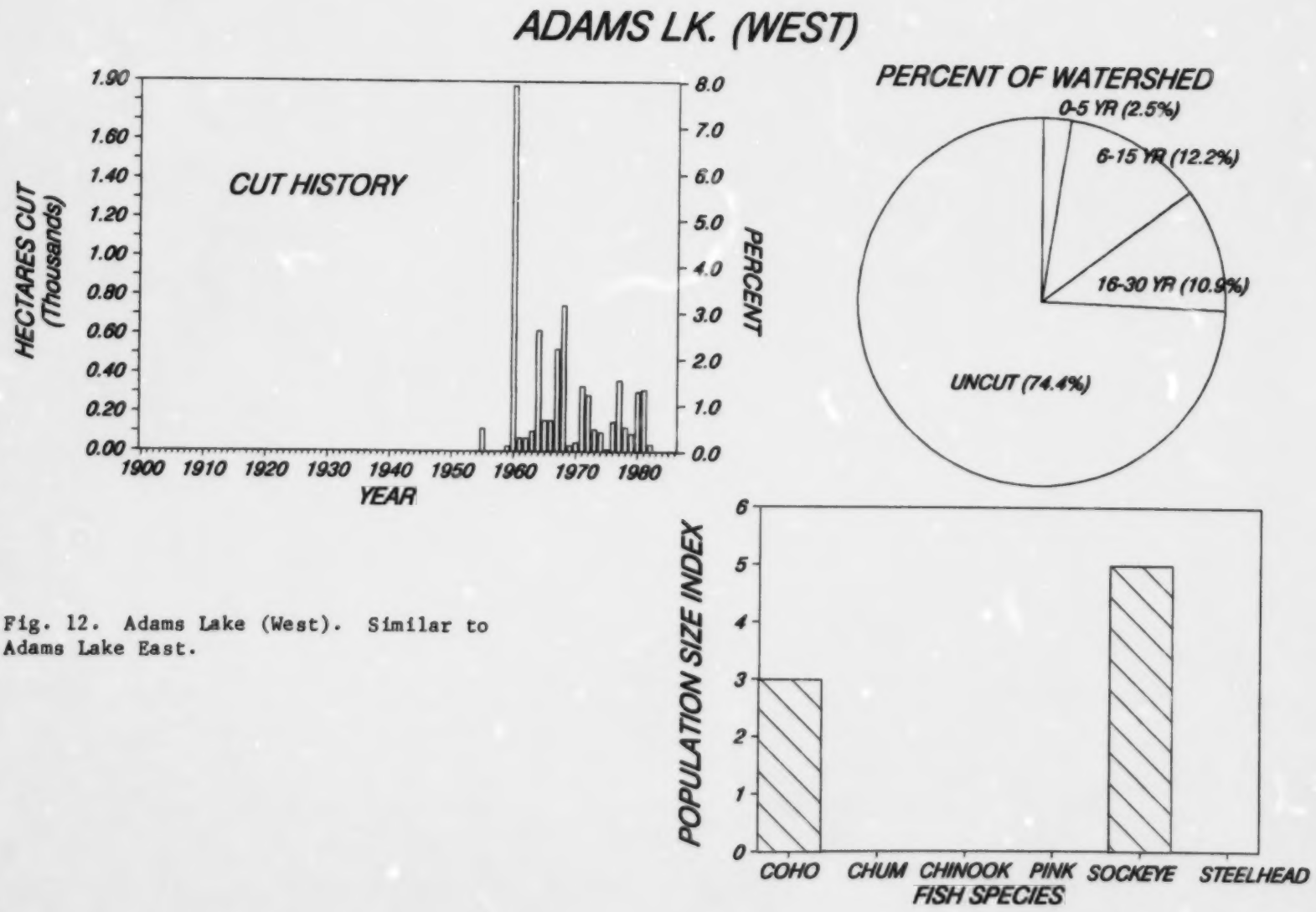
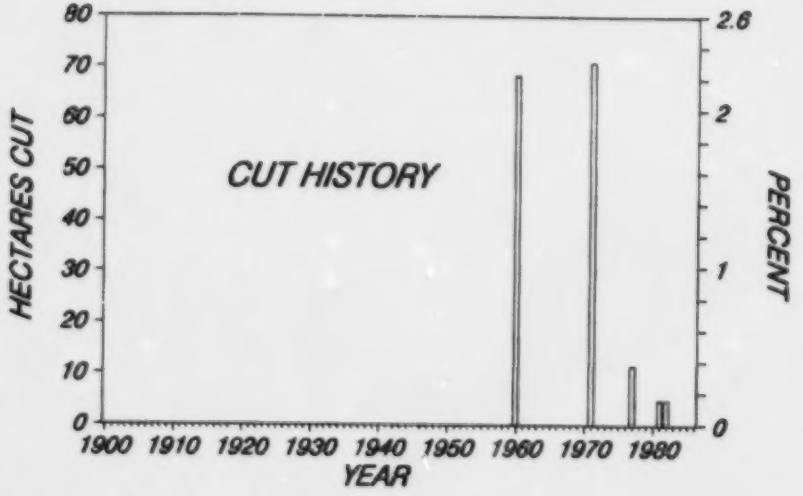


Fig. 12. Adams Lake (West). Similar to Adams Lake East.

LOWER ADAMS R.



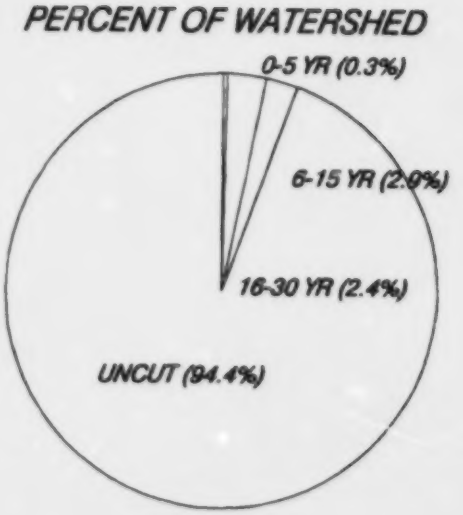
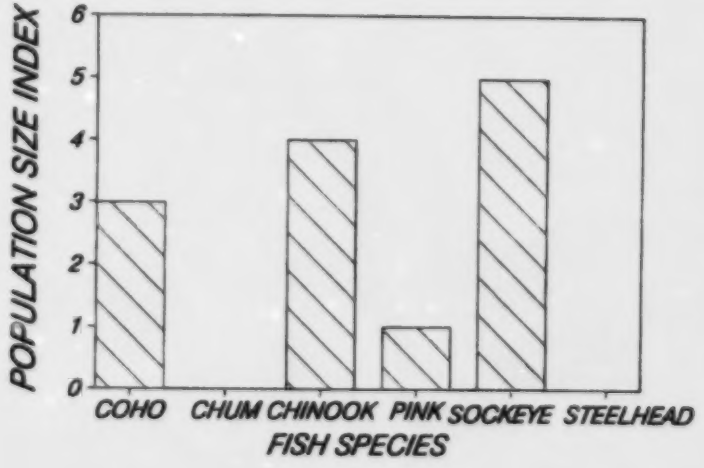


Fig. 13. Lower Adams River. One of the more important salmon spawning rivers in the Province. This river has a high tourist value. Sockeye numbers range from 35,000 to 1,500,000. Coho escapement has been estimated to range from 400 to 800, while Chinook escapement averages 1,700. In 1978, a conservation area of 2,442 acres was established on either side of the Lower Adams River to protect valuable spawning habitat.



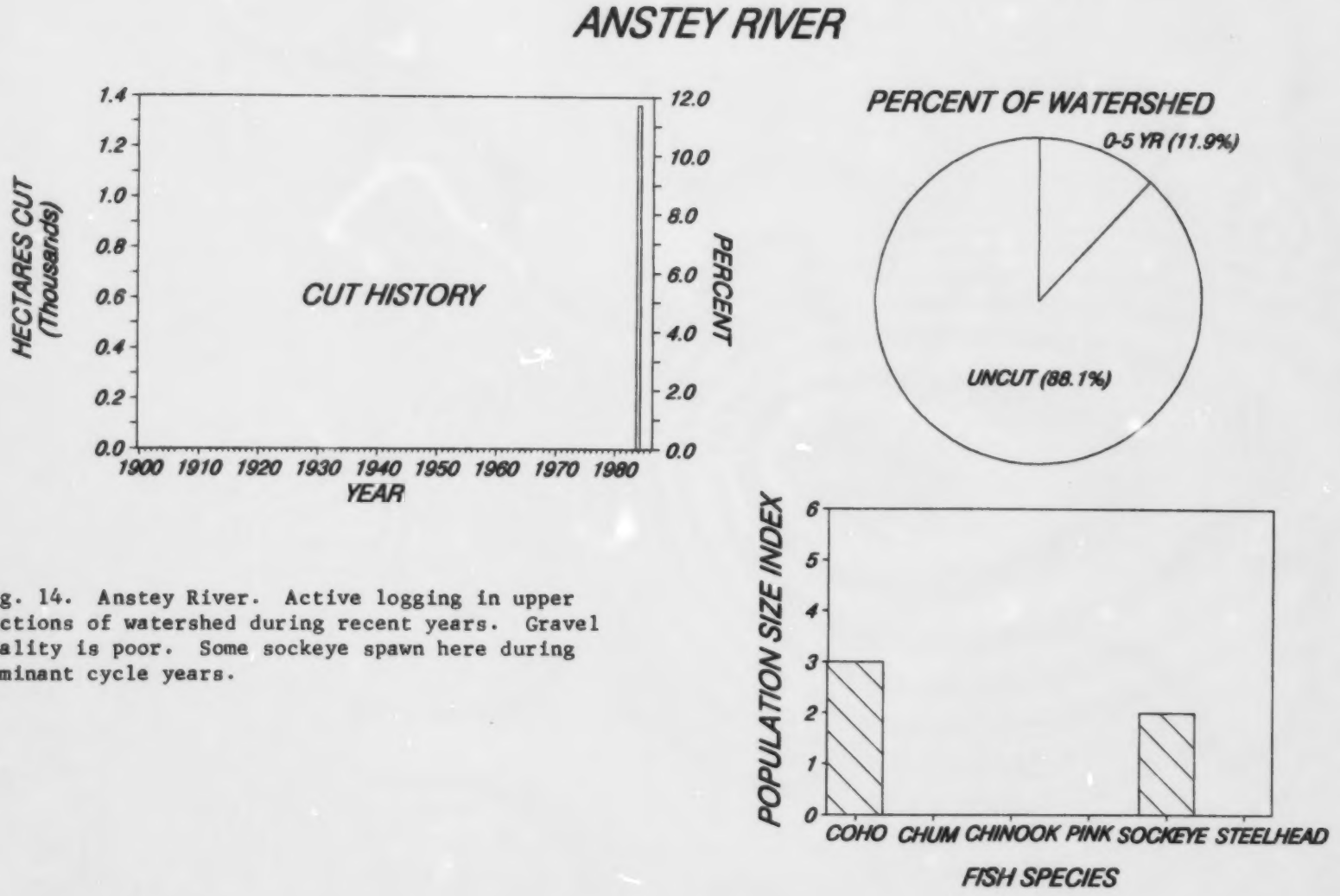


Fig. 14. Anstey River. Active logging in upper sections of watershed during recent years. Gravel quality is poor. Some sockeye spawn here during dominant cycle years.

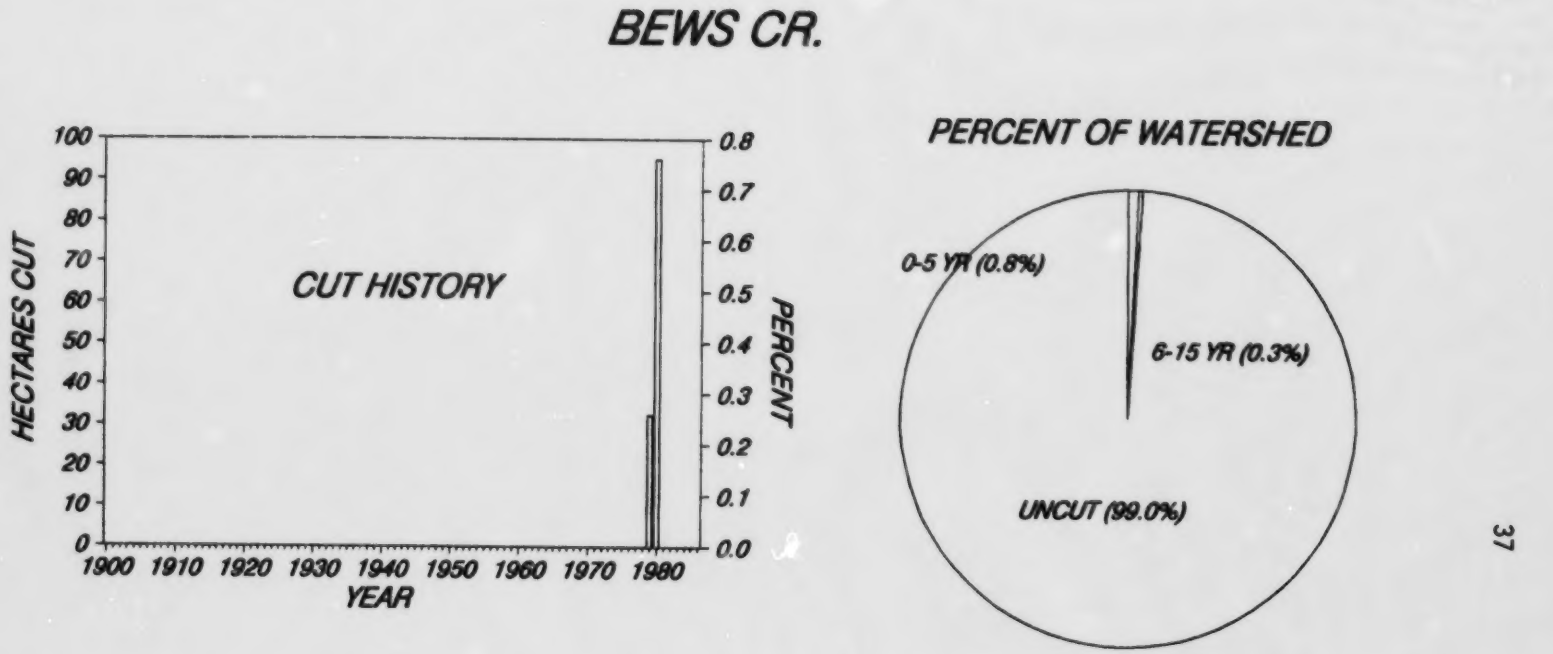
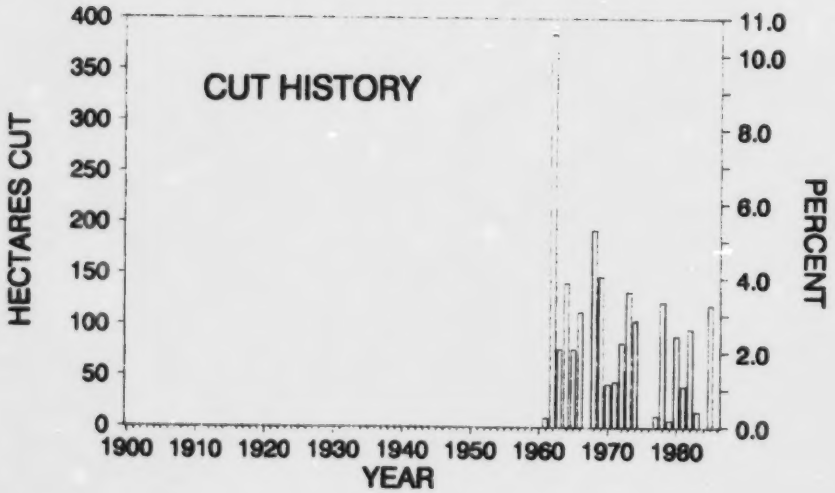


Fig. 15. Bews Creek.

Creek has not been surveyed, however set of falls on Perry would prevent spawners from reaching this creek.

BURTON CR.



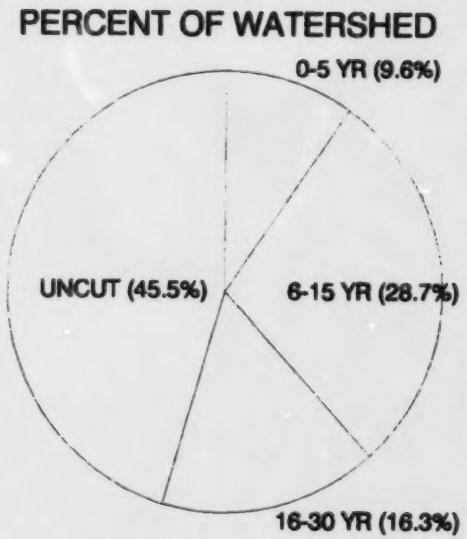
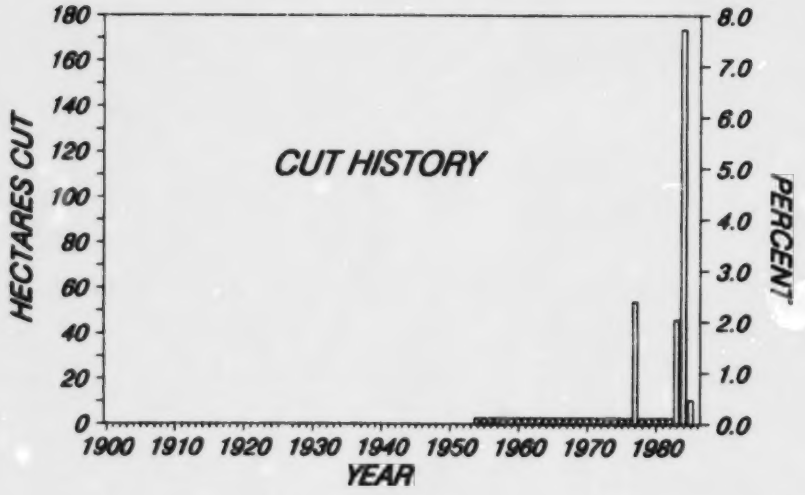


Fig. 16. Burton Creek.

Gradient too steep in lower section, blocked by falls part way up. No known salmon use.

UNKNOWN

CAMP SIX CR.



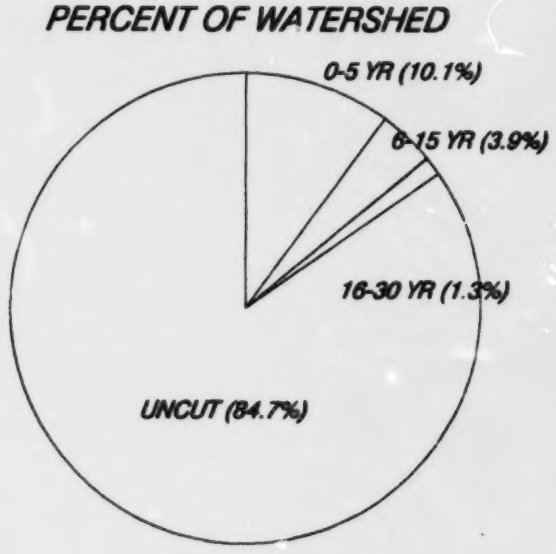


Fig. 17. Camp Six Creek.

Too steep for salmon use.

NO SALMON

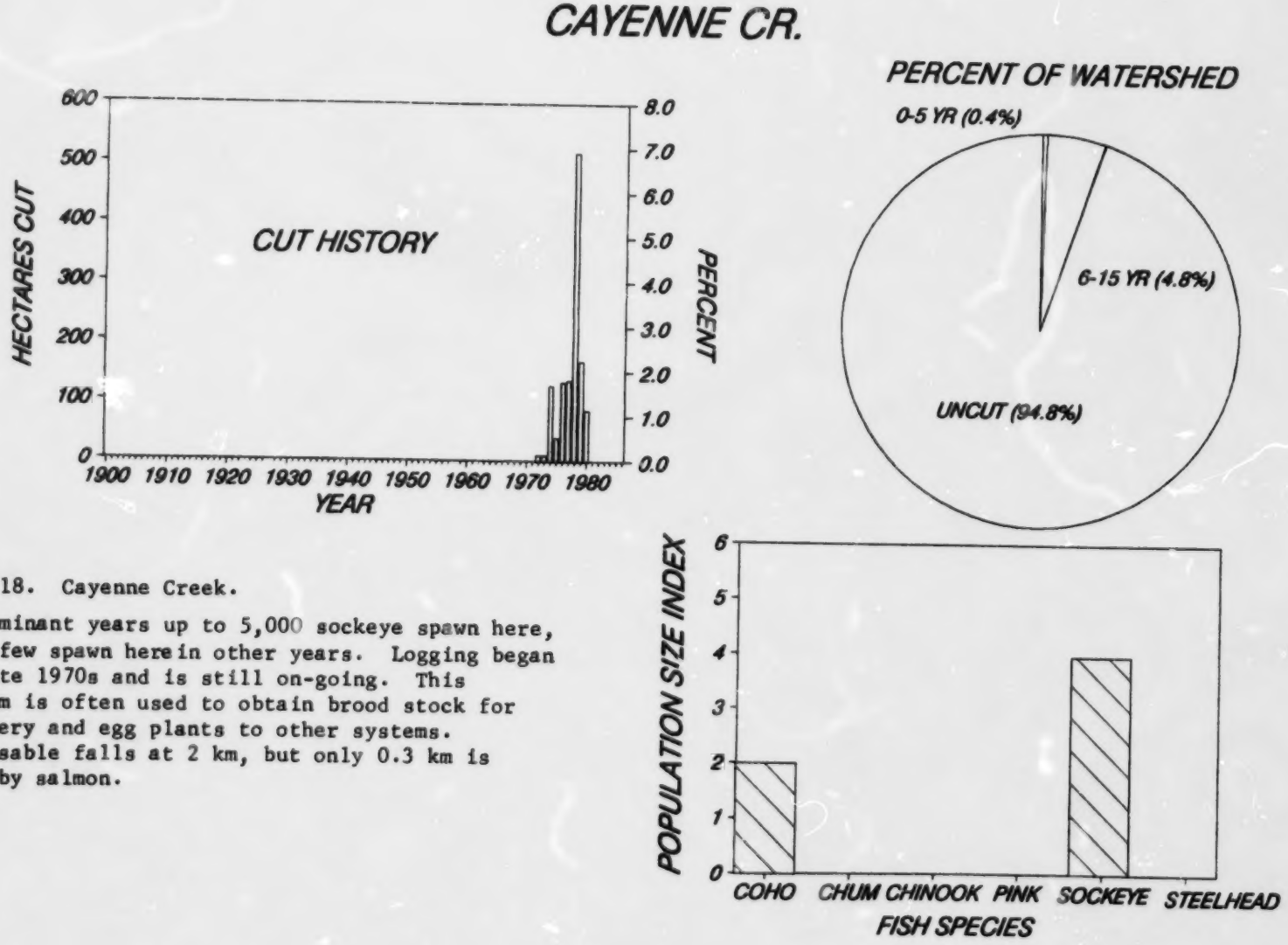


Fig. 18. Cayenne Creek.

In dominant years up to 5,000 sockeye spawn here, very few spawn here in other years. Logging began in late 1970s and is still on-going. This system is often used to obtain brood stock for hatchery and egg plants to other systems. Impassable falls at 2 km, but only 0.3 km is used by salmon.

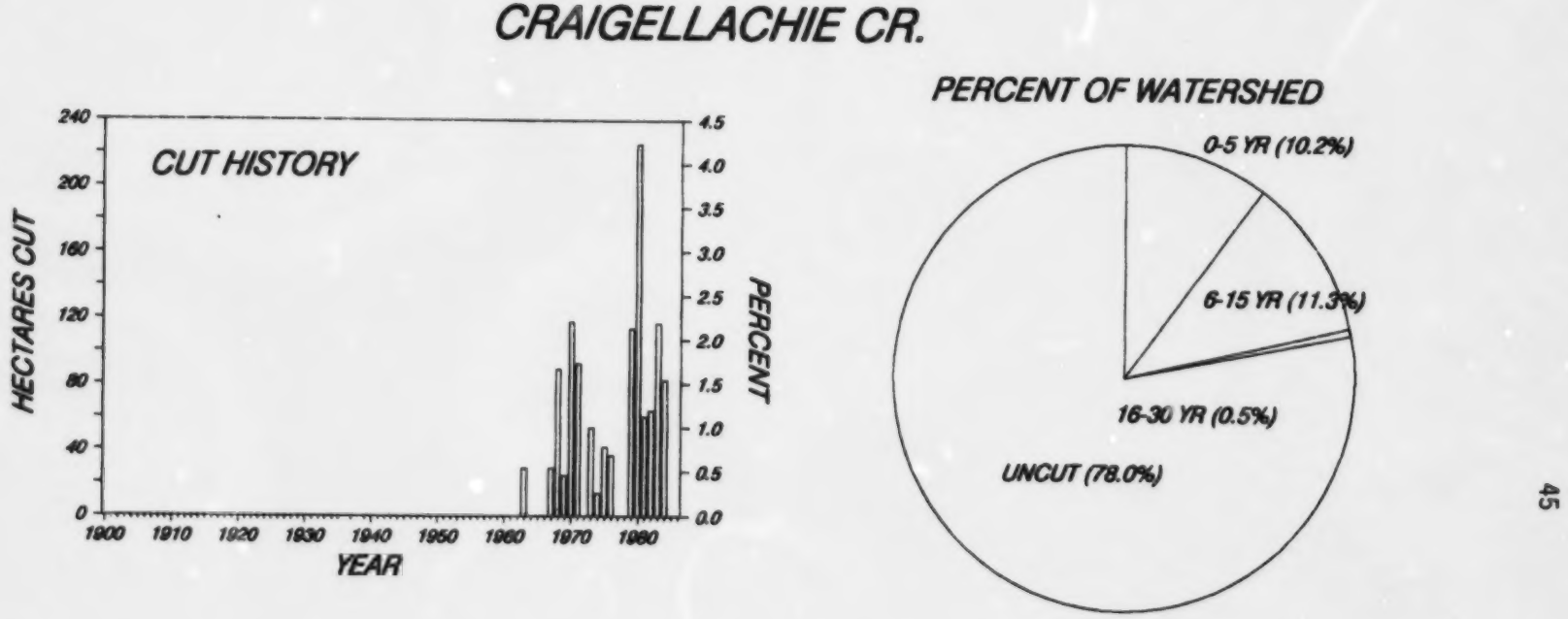


Fig. 19. Craigellachie Creek.

Stream steep and gorge-like. No salmon usage and little to no enhancement possibilities.

NO SALMON

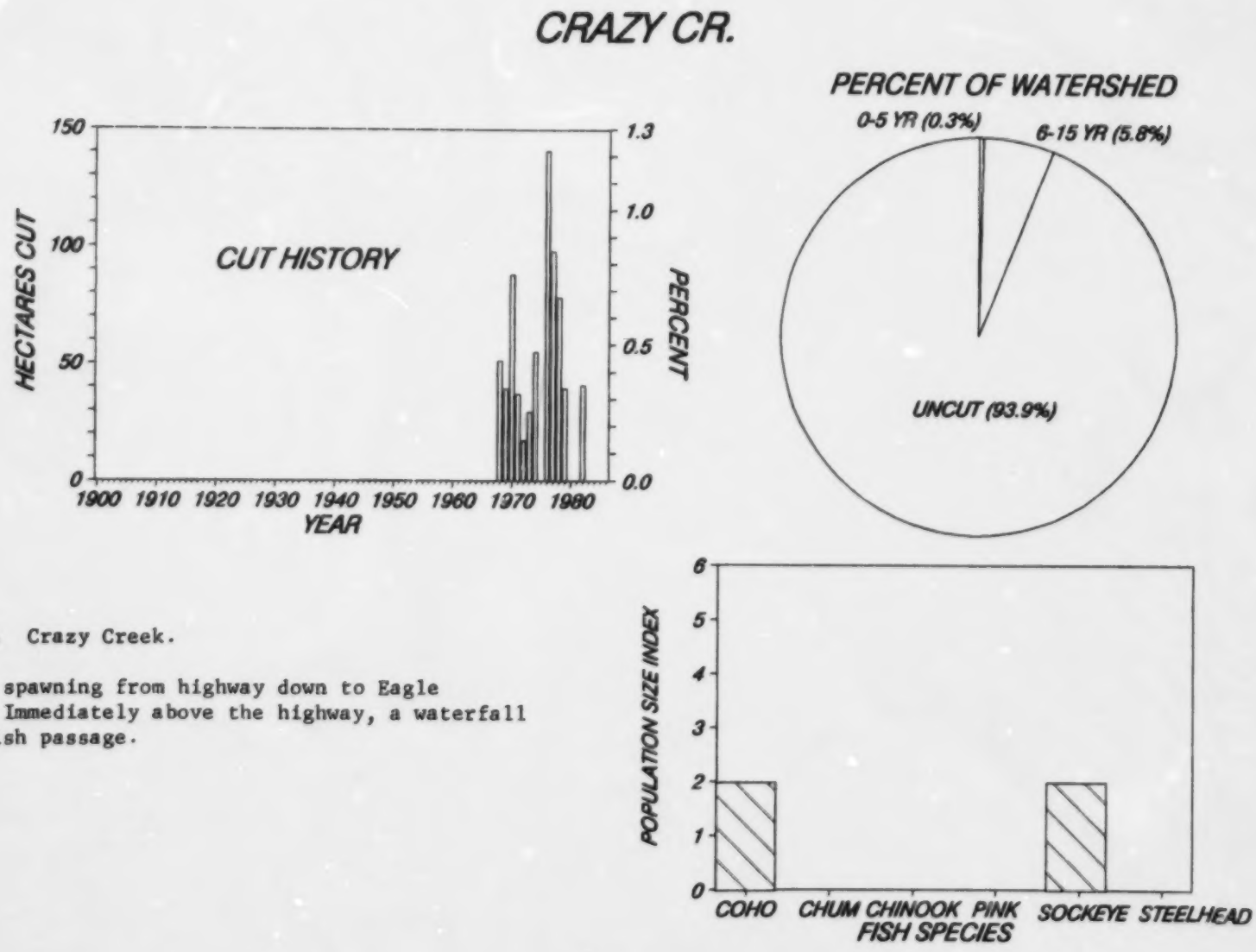


Fig. 20. Crazy Creek.

Limited spawning from highway down to Eagle River. Immediately above the highway, a waterfall stops fish passage.

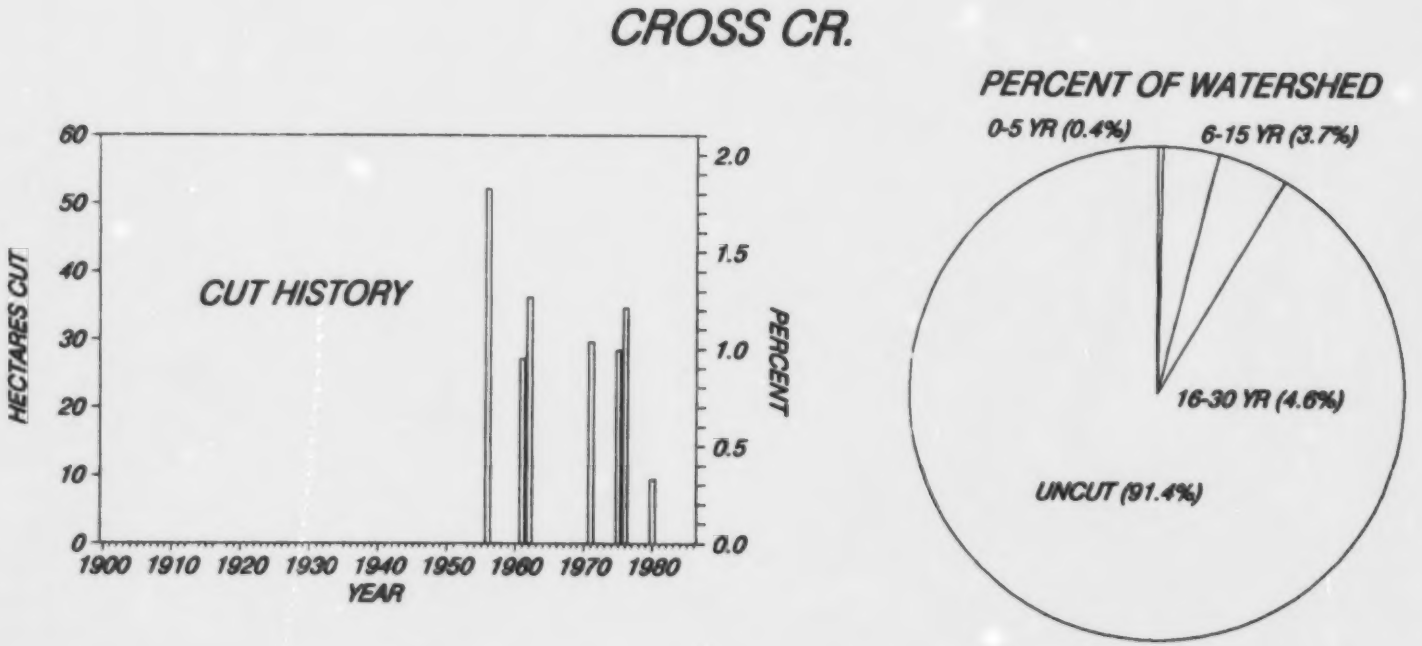
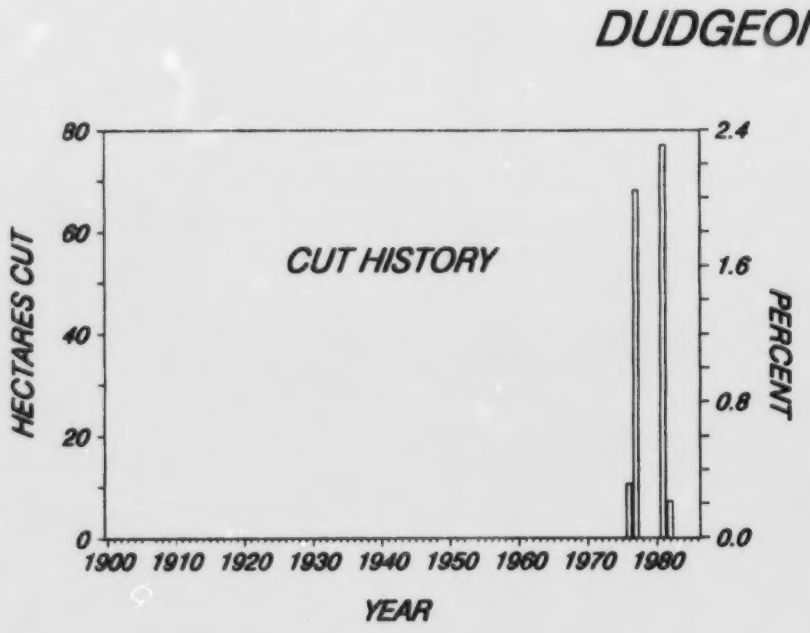


Fig. 21. Cross Creek.

Anadromous fish cannot go beyond the falls on Scotch Creek.



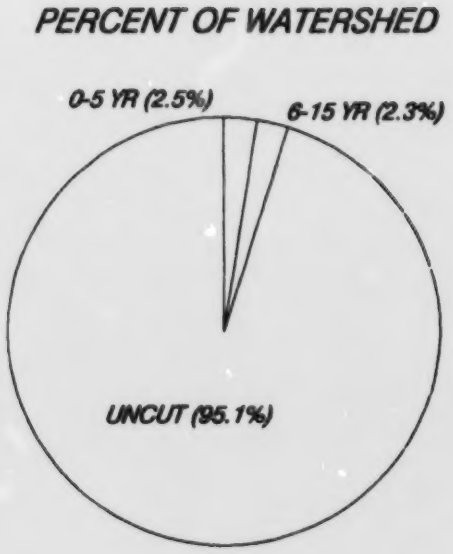


Fig. 22. Dudgeon Creek.

The gradient is too steep and substrate too rocky for salmon.

NO SALMON

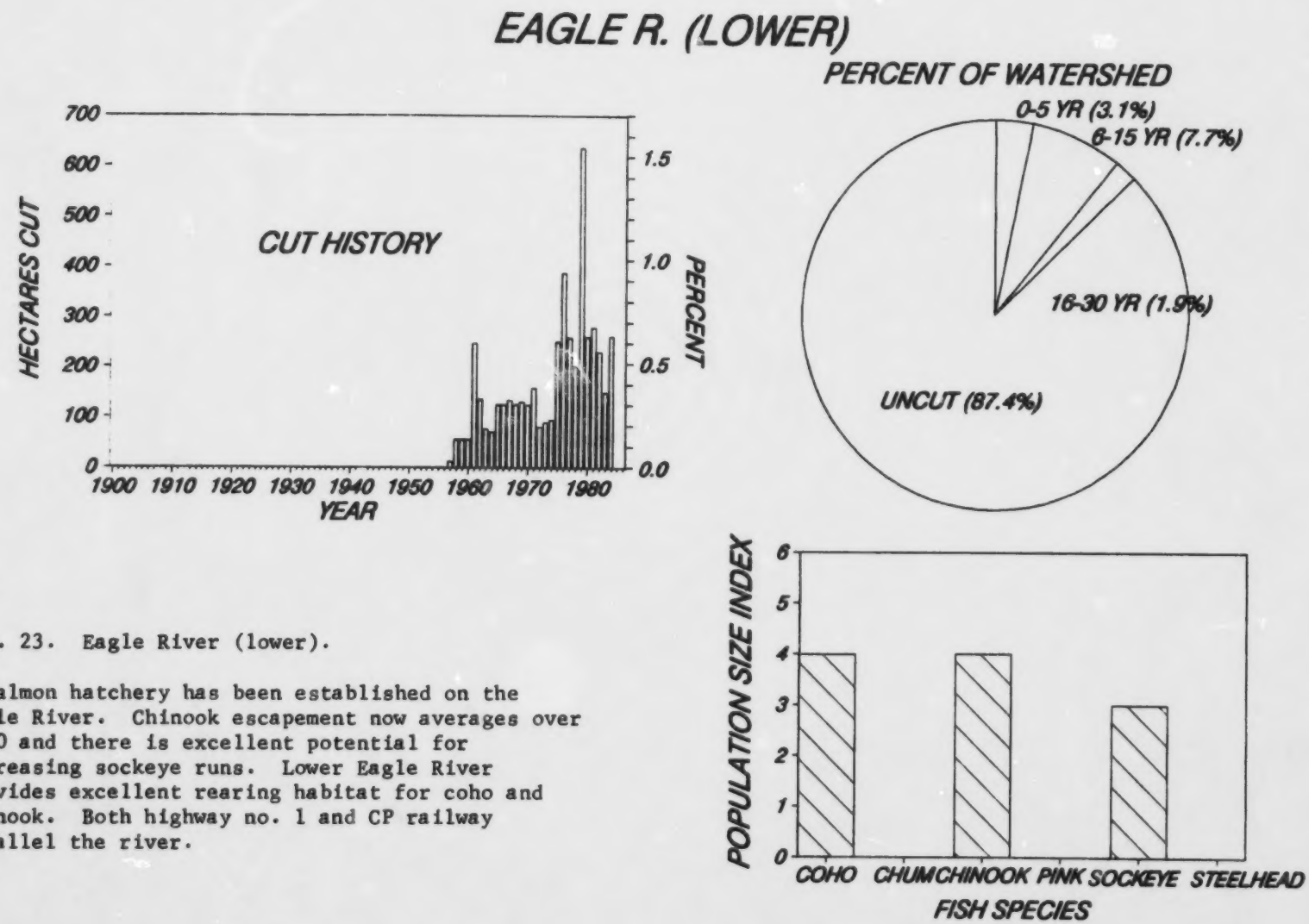


Fig. 23. Eagle River (lower).

A salmon hatchery has been established on the Eagle River. Chinook escapement now averages over 1000 and there is excellent potential for increasing sockeye runs. Lower Eagle River provides excellent rearing habitat for coho and chinook. Both highway no. 1 and CP railway parallel the river.

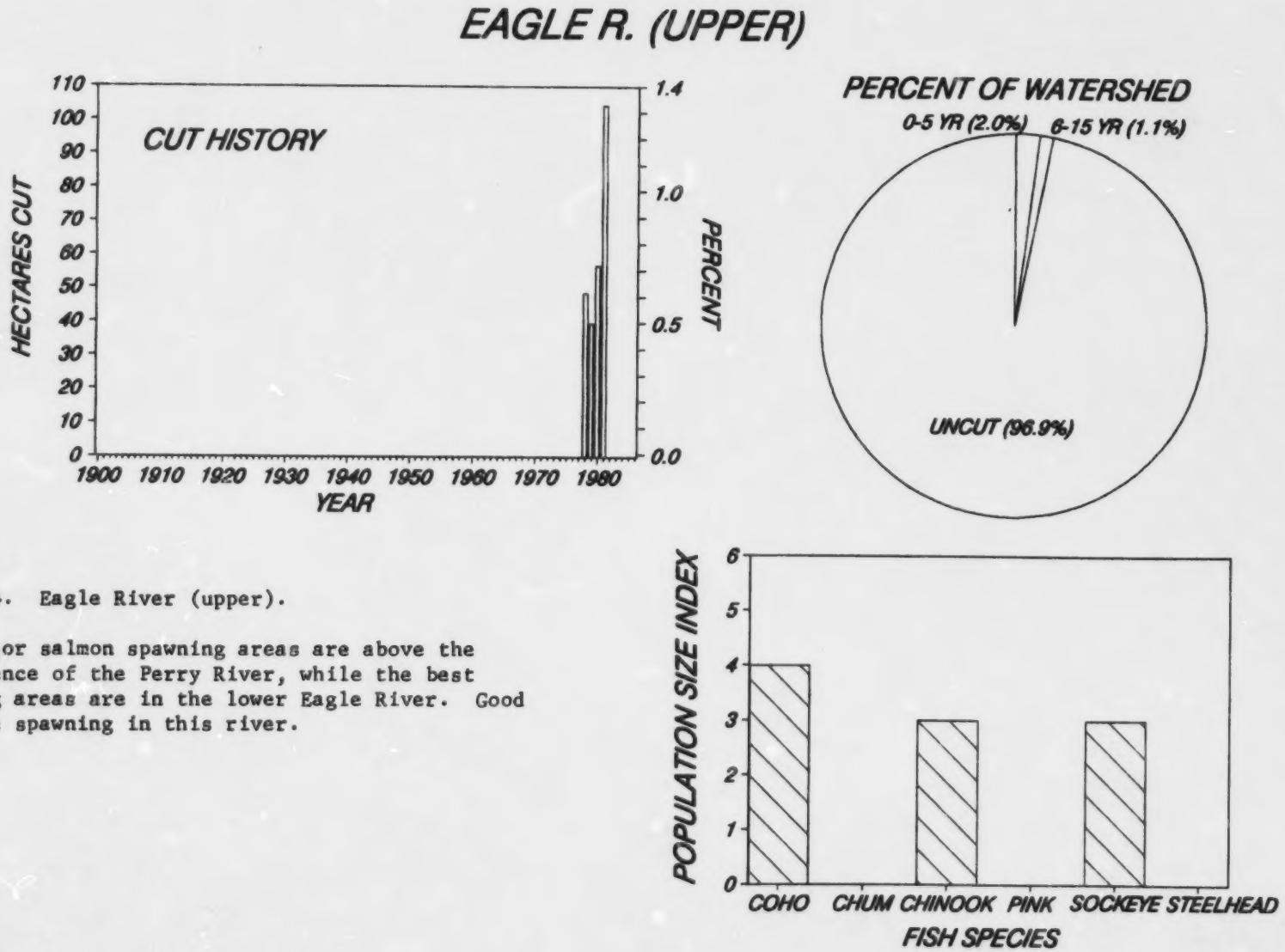
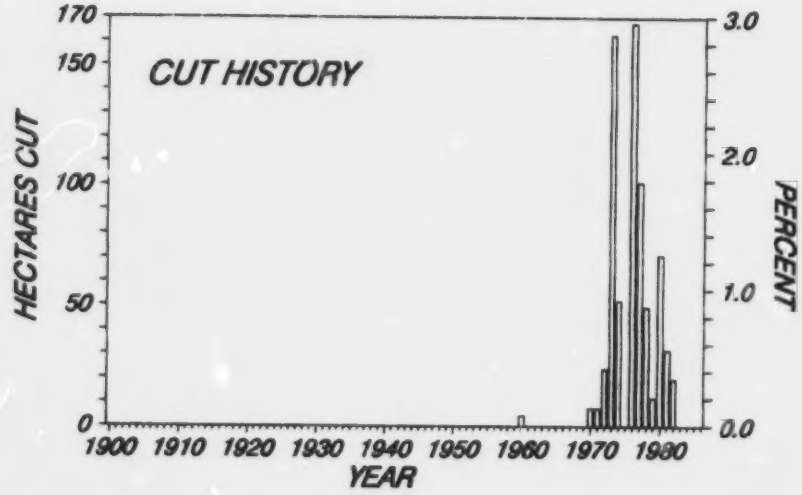


Fig. 24. Eagle River (upper).

The major salmon spawning areas are above the confluence of the Perry River, while the best rearing areas are in the lower Eagle River. Good kokanee spawning in this river.

GANNET CR.



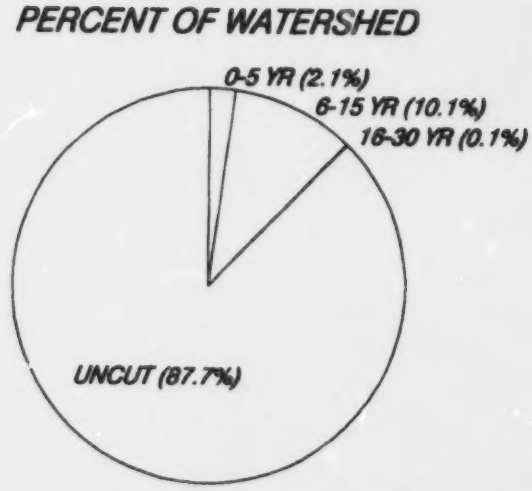


Fig. 25. Gannet Creek.

Too steep for fish access.

NO SALMON

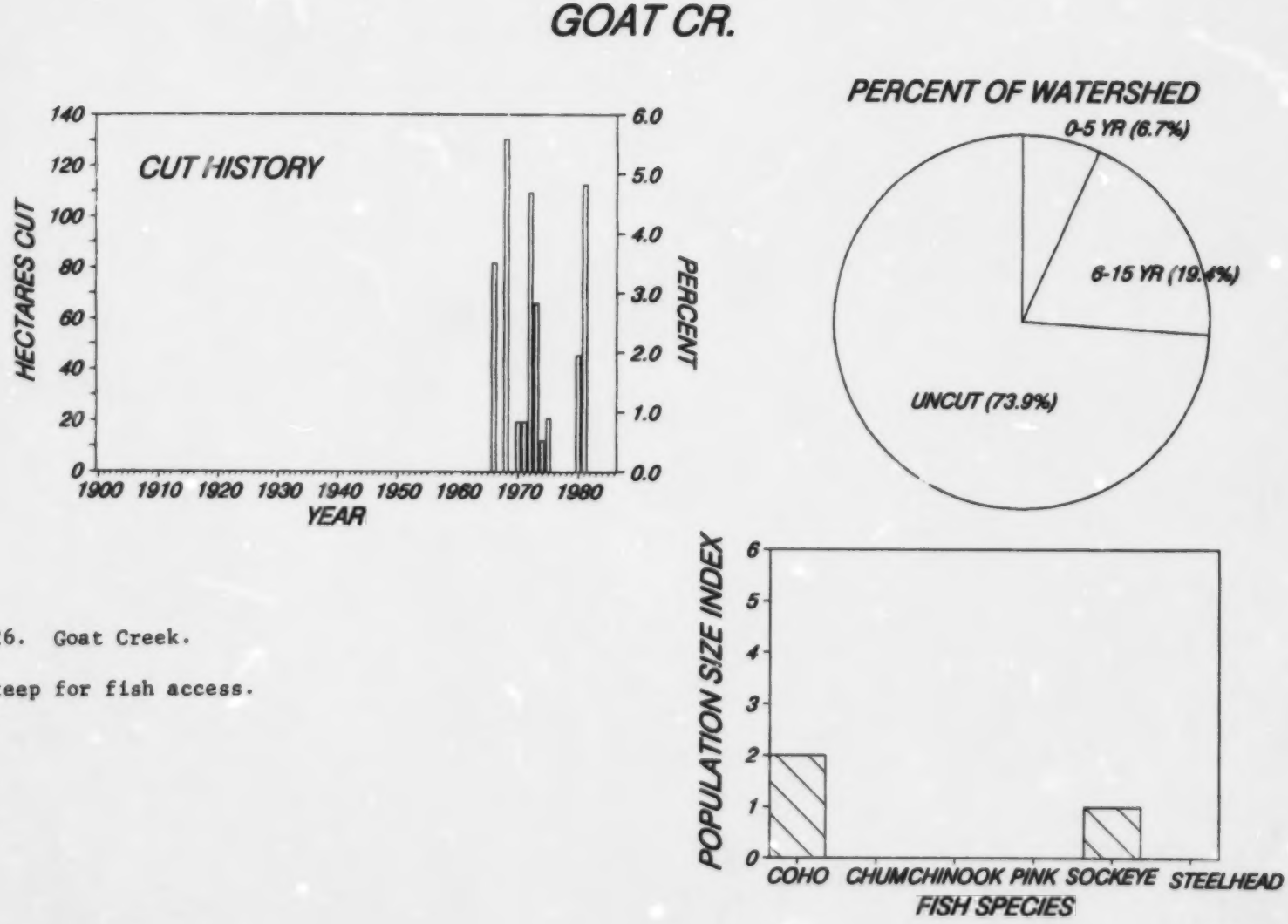


Fig. 26. Goat Creek.

Too steep for fish access.

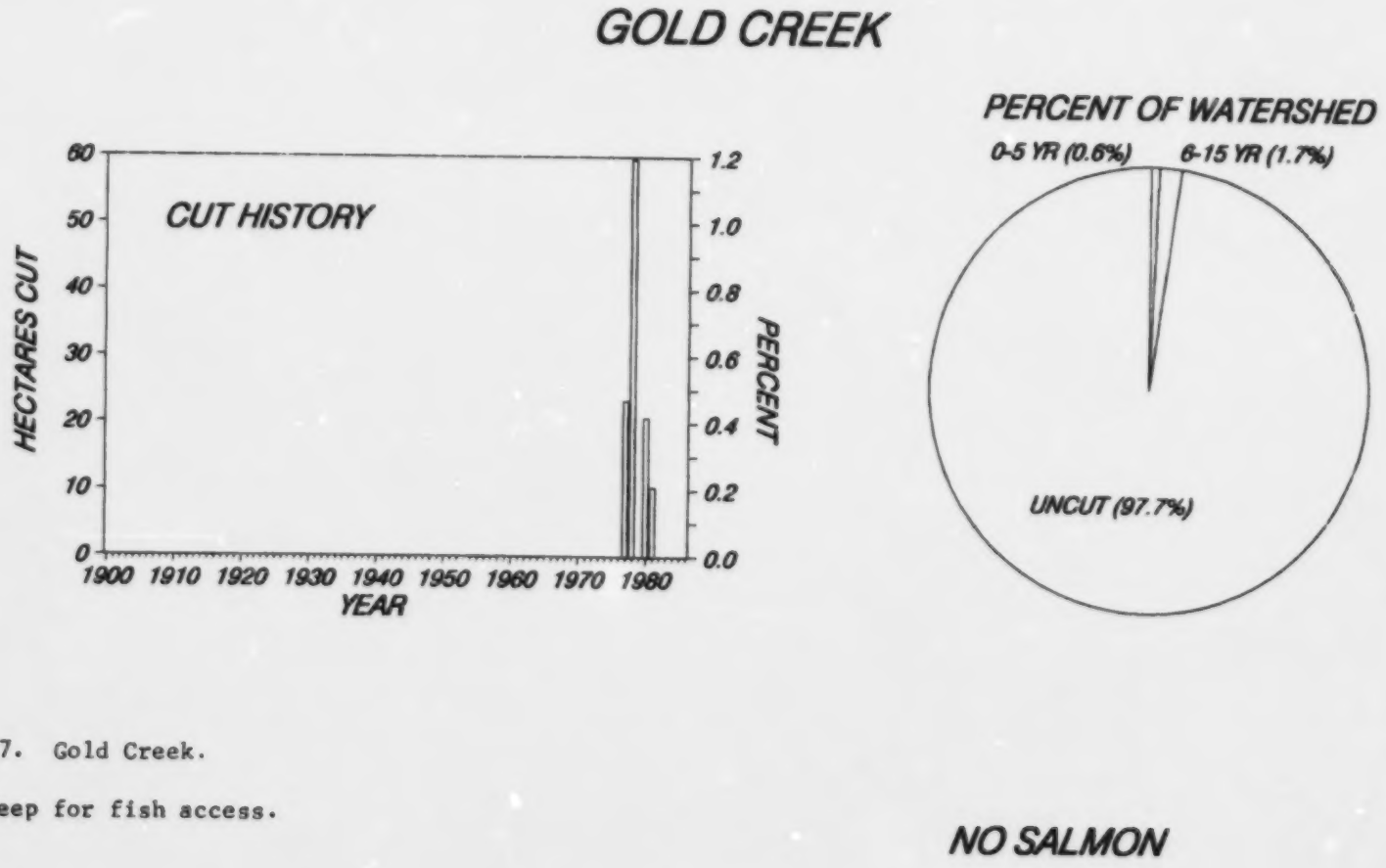
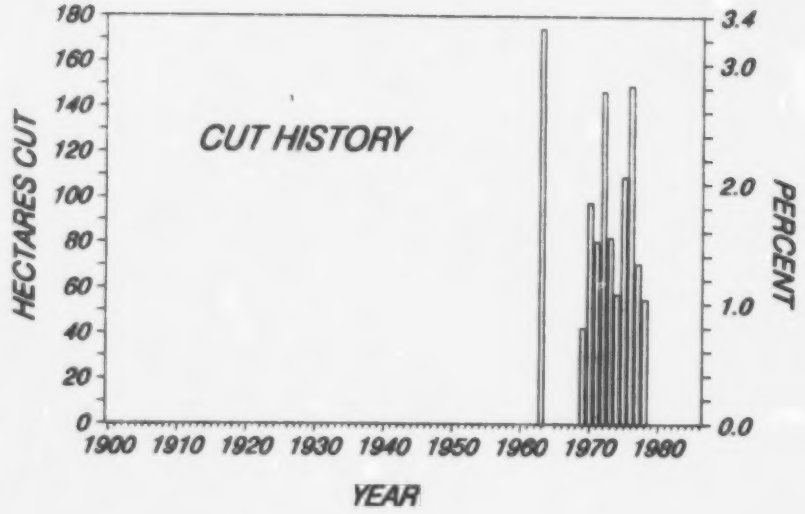


Fig. 27. Gold Creek.

Too steep for fish access.

GOLLEN CR.



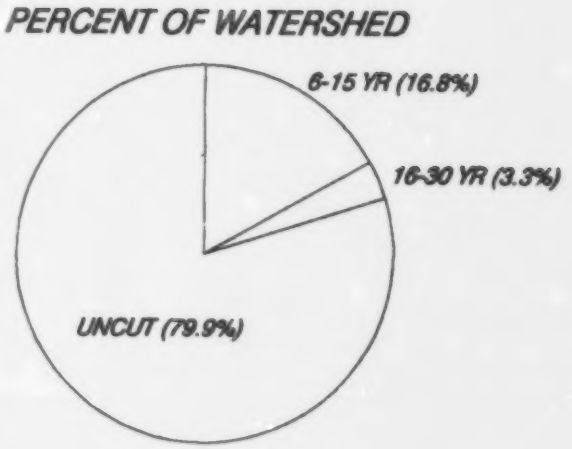


Fig. 28. Gollen Creek.

Too steep for fish access.

NO SALMON

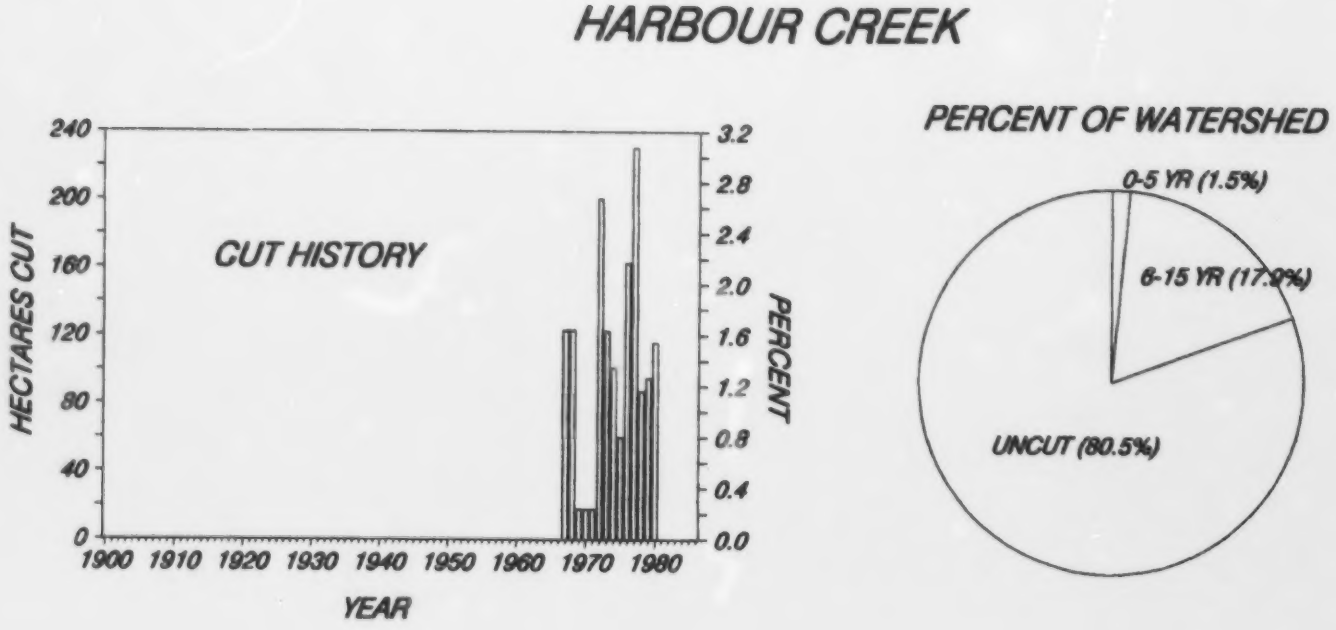


Fig. 29. Harbour Creek.

No surveys done to date, but potential as salmon habitat viewed as low.

NO SALMON

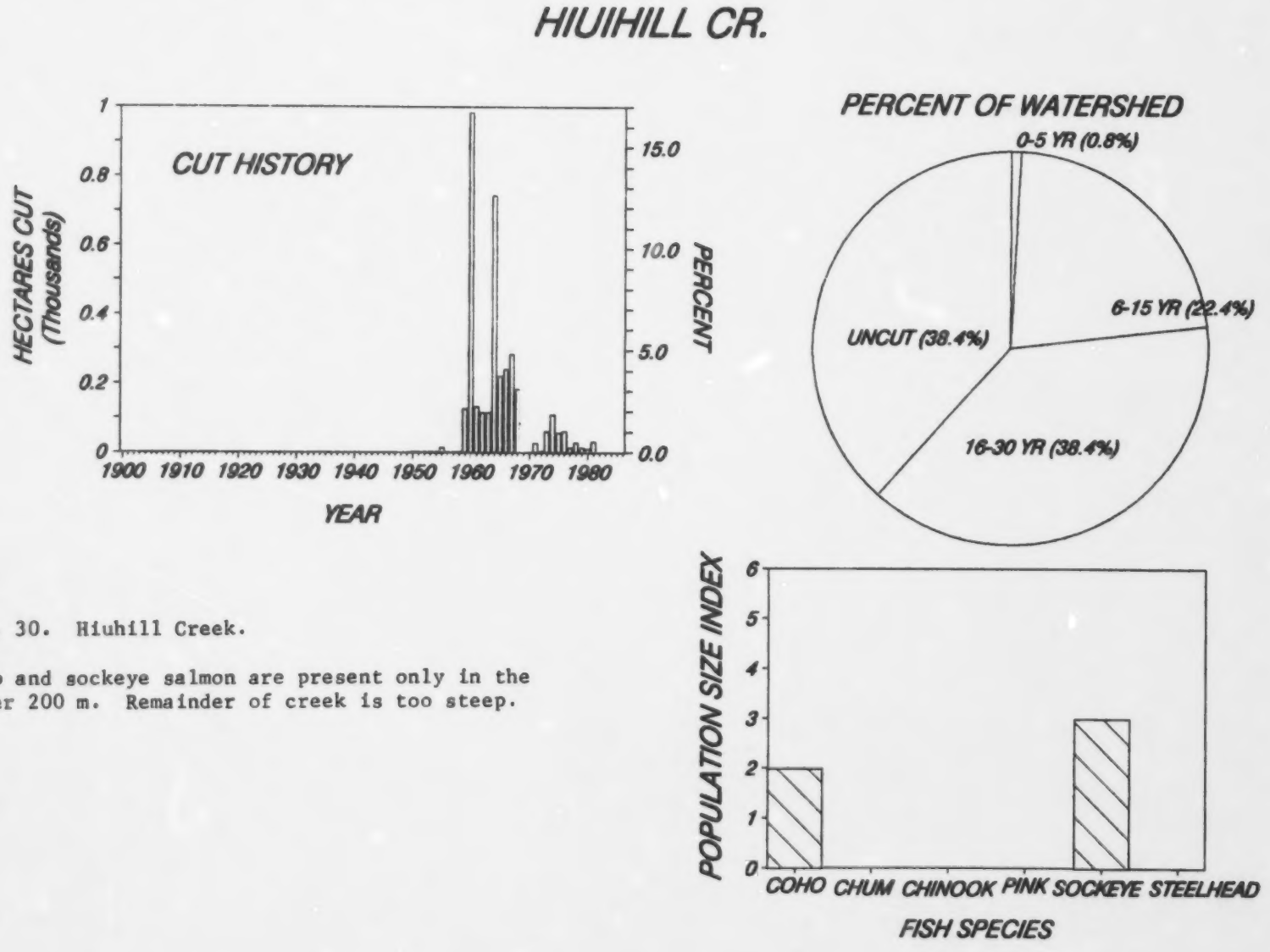


Fig. 30. Hiuhill Creek.

Coho and sockeye salmon are present only in the lower 200 m. Remainder of creek is too steep.

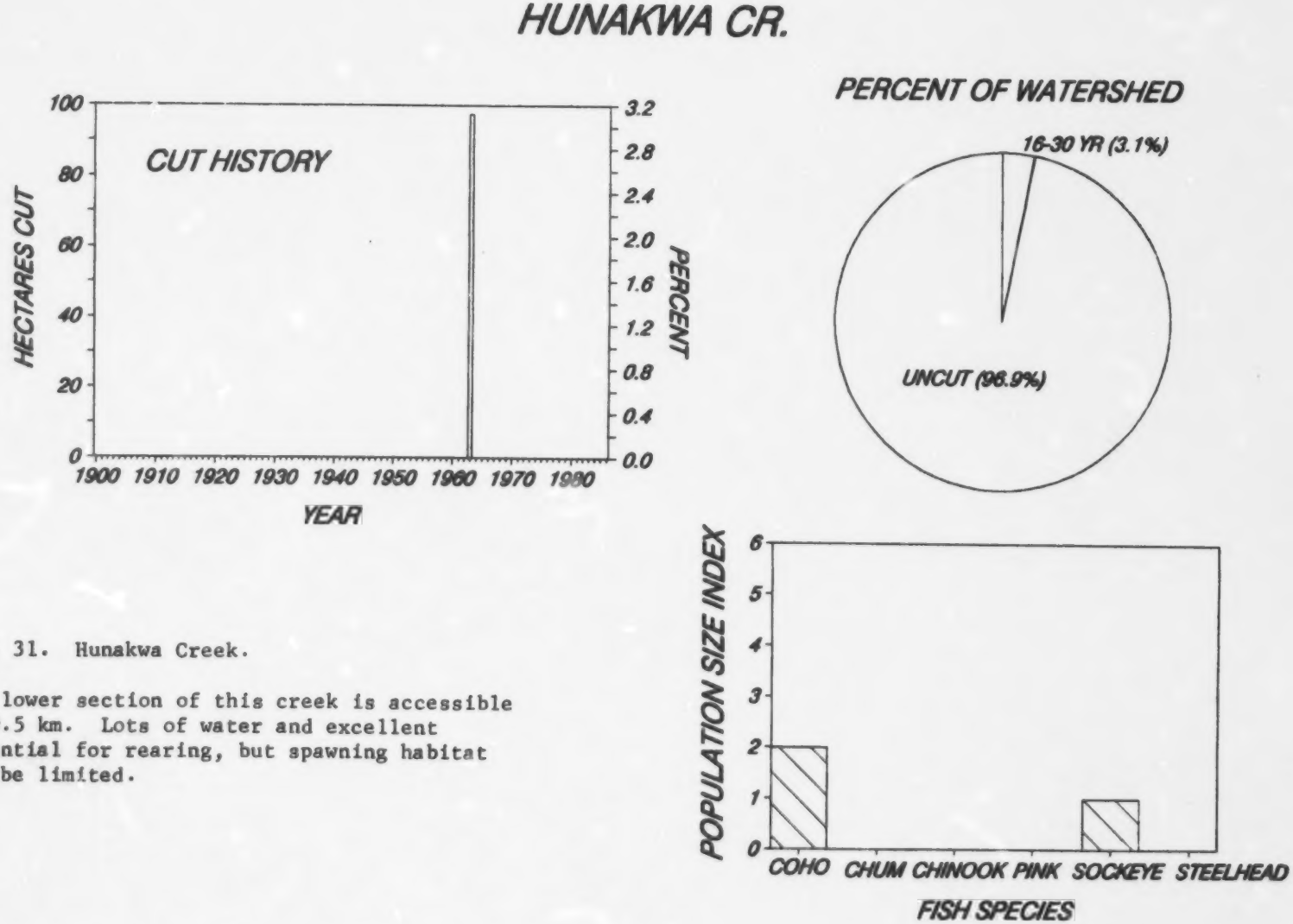


Fig. 31. Hunakwa Creek.

The lower section of this creek is accessible to 0.5 km. Lots of water and excellent potential for rearing, but spawning habitat may be limited.

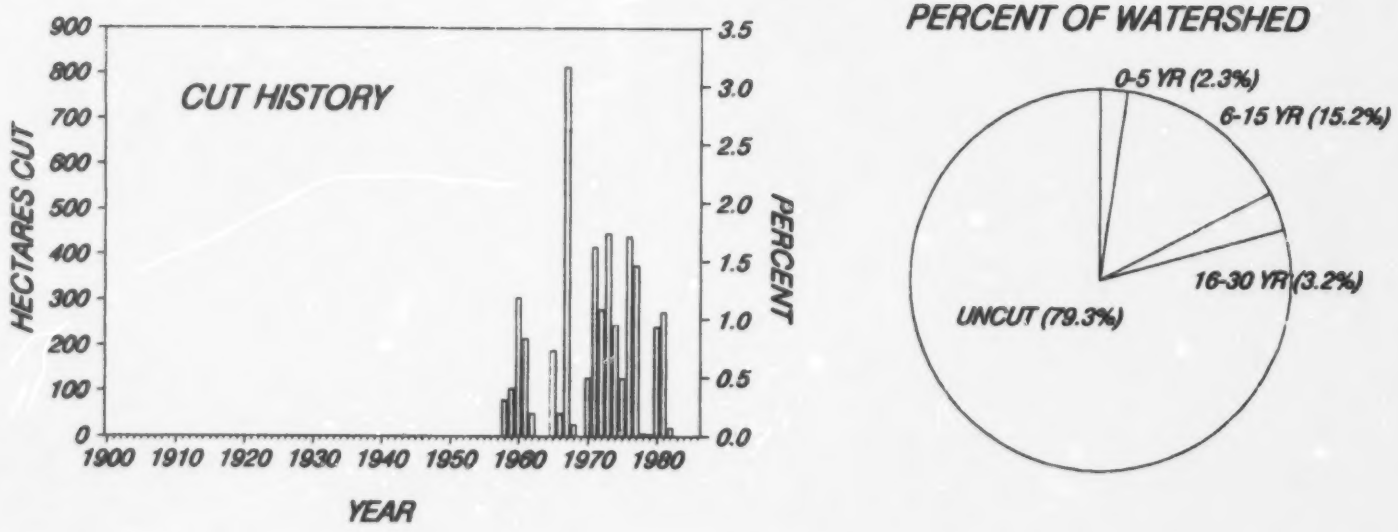


Fig. 32. Kwikoit Creek.

Not accessible to anadromous fish as there is a falls on Scotch Creek at 10 km and the confluence of this stream is at 12 km.

NO SALMON

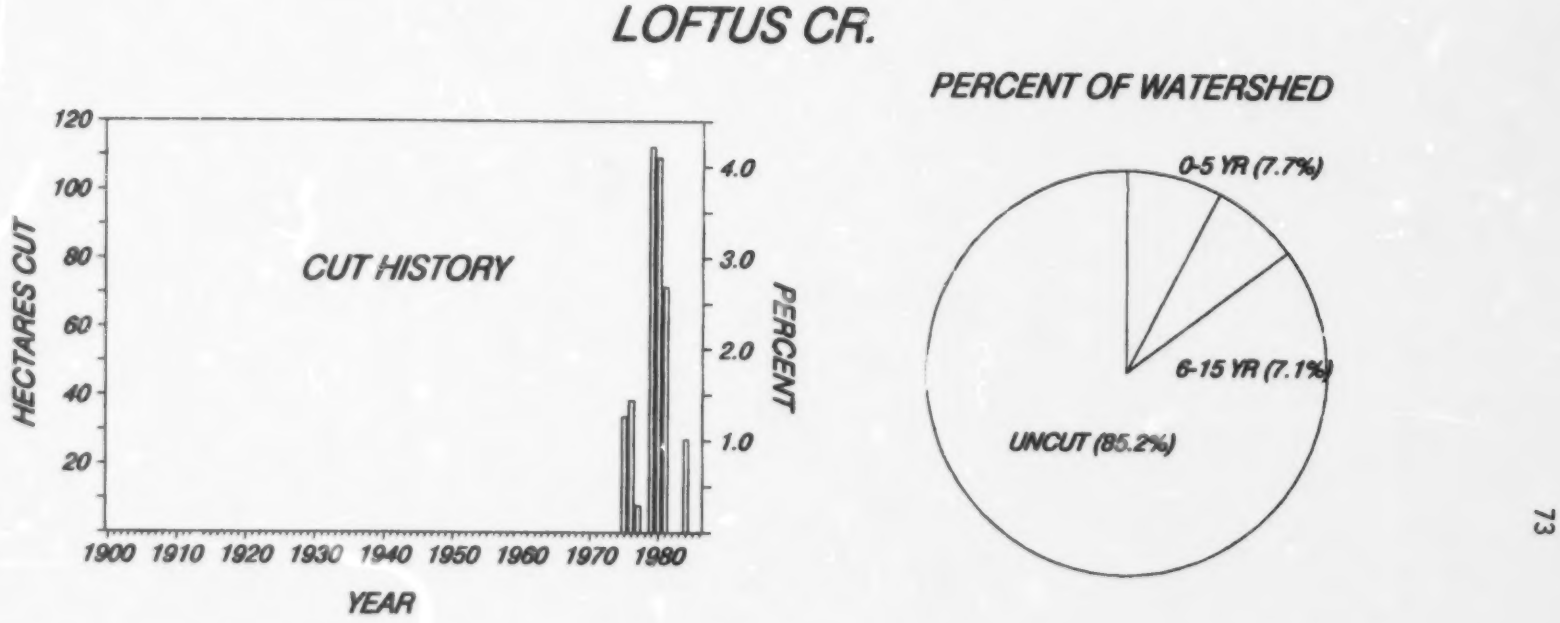


Fig. 33. Loftus Creek.

Flows into lower Eagle River.

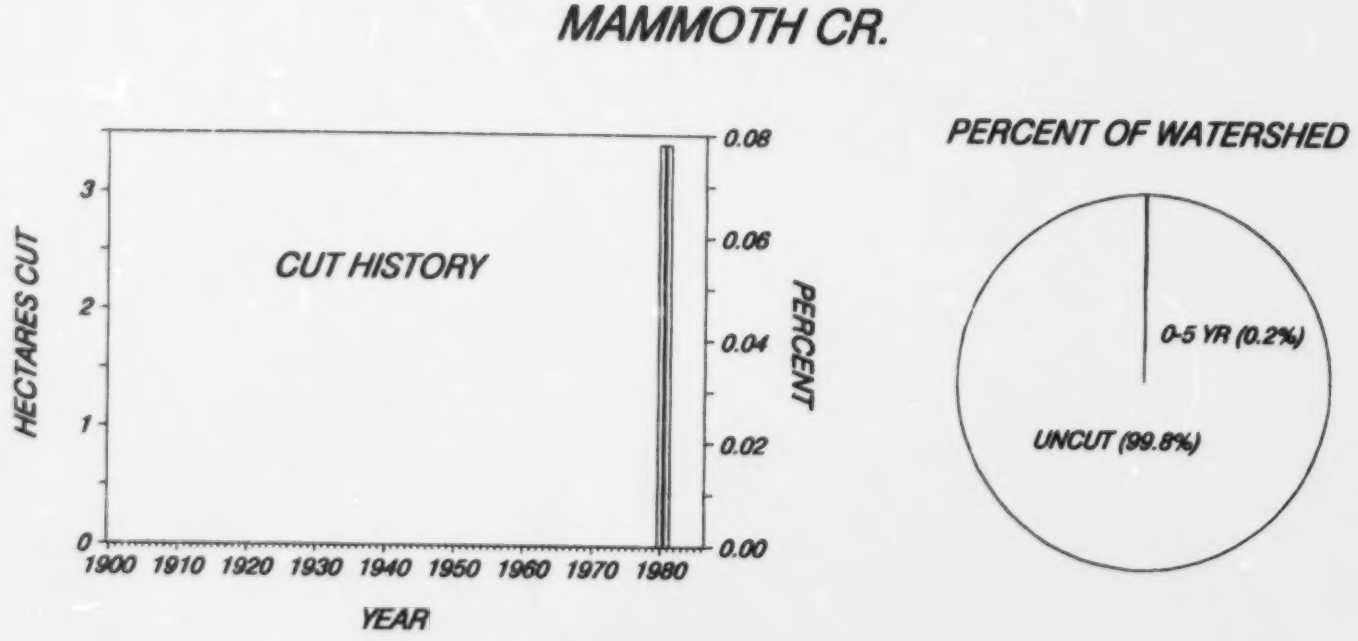


Fig. 34. Mammoth Creek.

Too steep for fish access.

NO SALMON

McNOMEE CR.

UNLOGGED

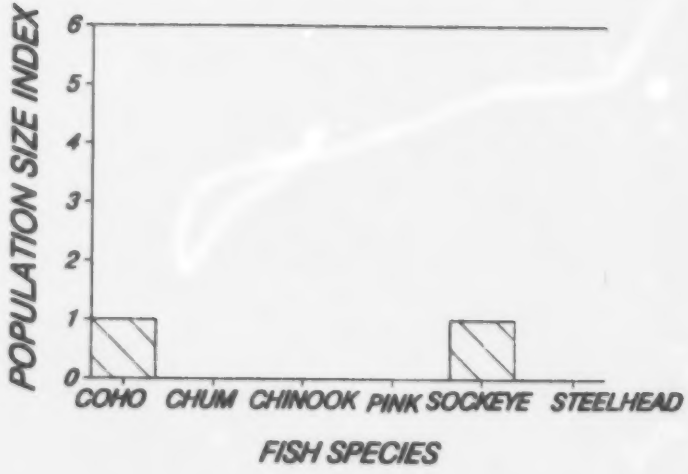


Fig. 35. McNomee Creek.

Road access into Seymour River lower, and McNomee Creek area, was established in early 1970s. Sockeye spawning in dominant years consists of spillover from lower Seymour River.

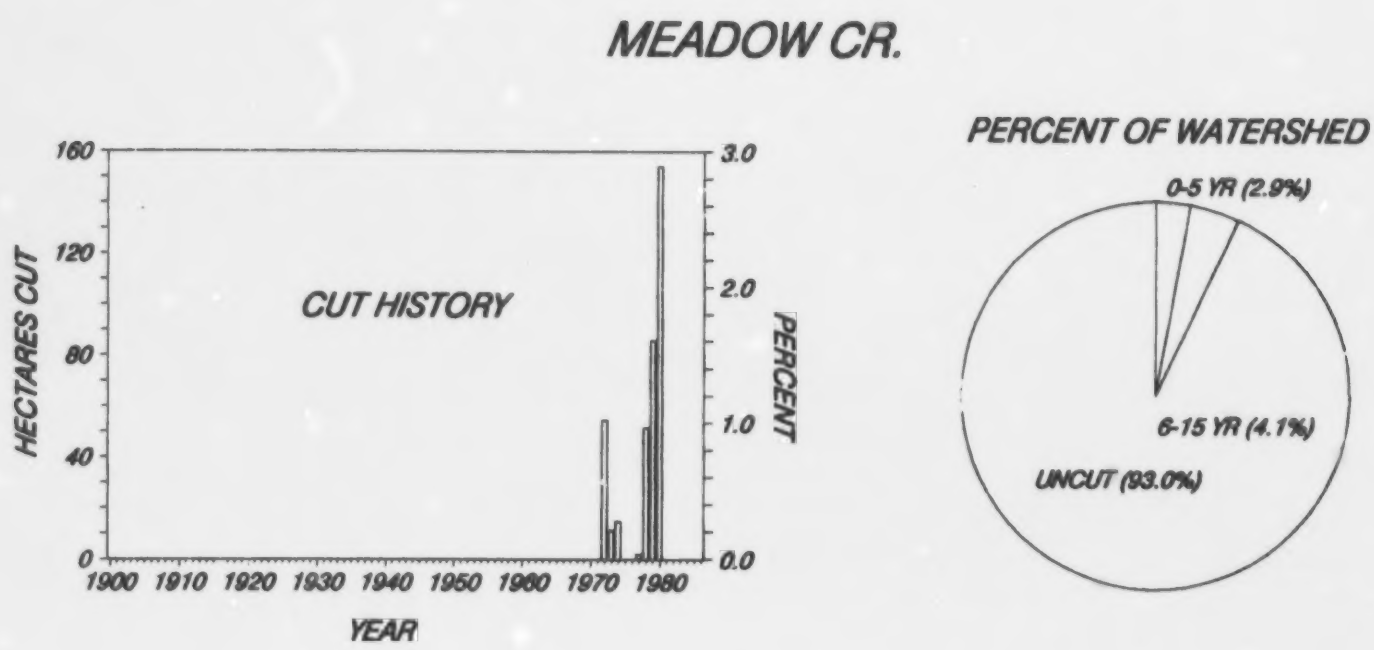


Fig. 36. Meadow Creek.

Confluence with Cayenne Creek is well above the accessible portion of Cayenne Creek.

NO SALMON

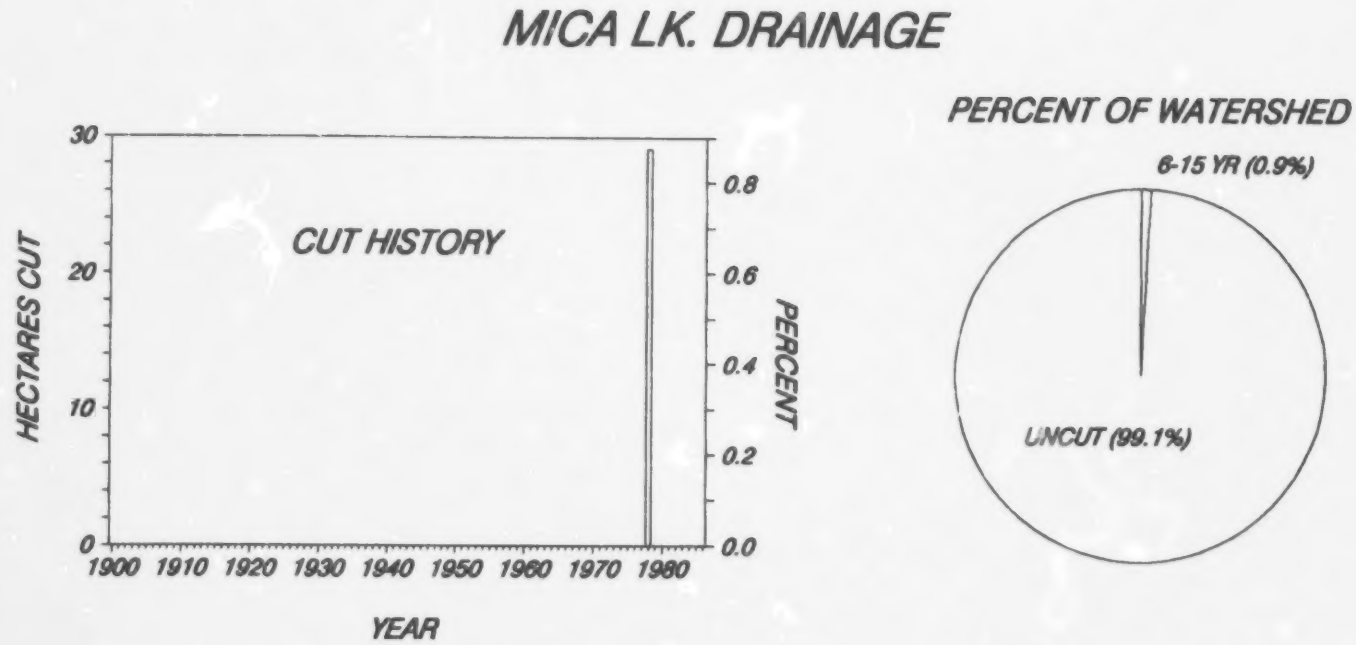


Fig. 37. Mica Lake Drainage.

No surveys done to date.

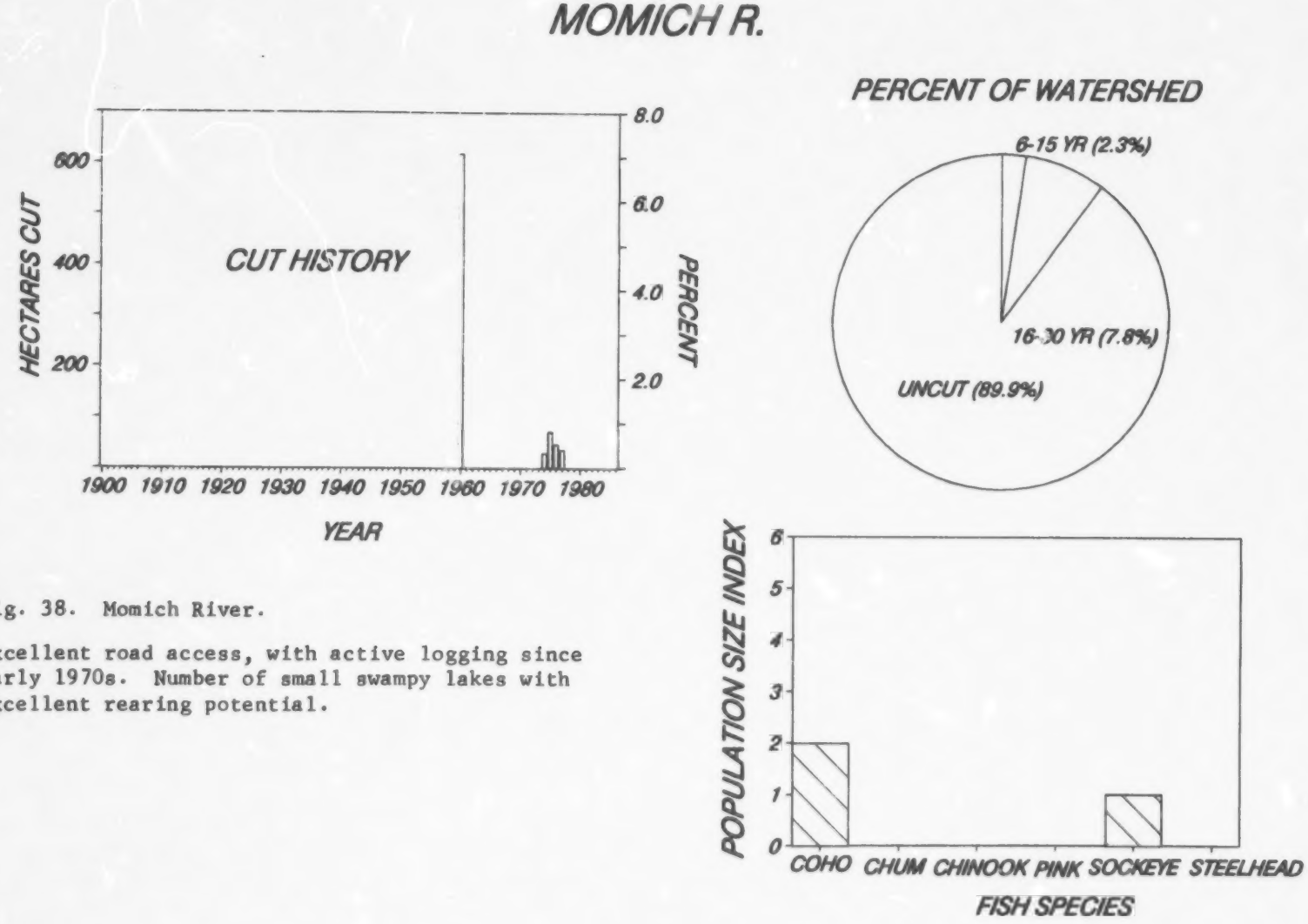


Fig. 38. Momich River.

Excellent road access, with active logging since early 1970s. Number of small swampy lakes with excellent rearing potential.

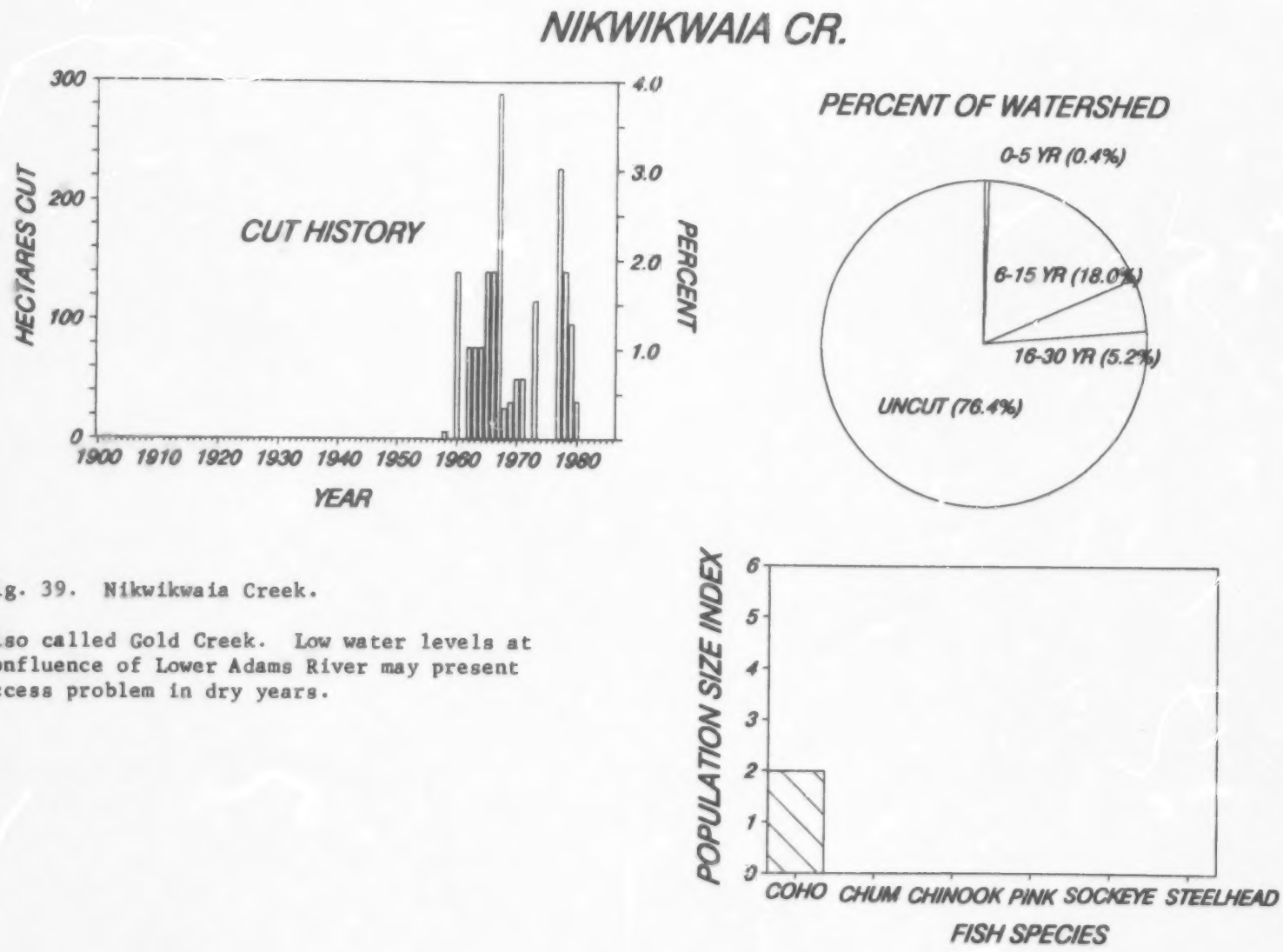


Fig. 39. Nikwikwaia Creek.

Also called Gold Creek. Low water levels at confluence of Lower Adams River may present access problem in dry years.

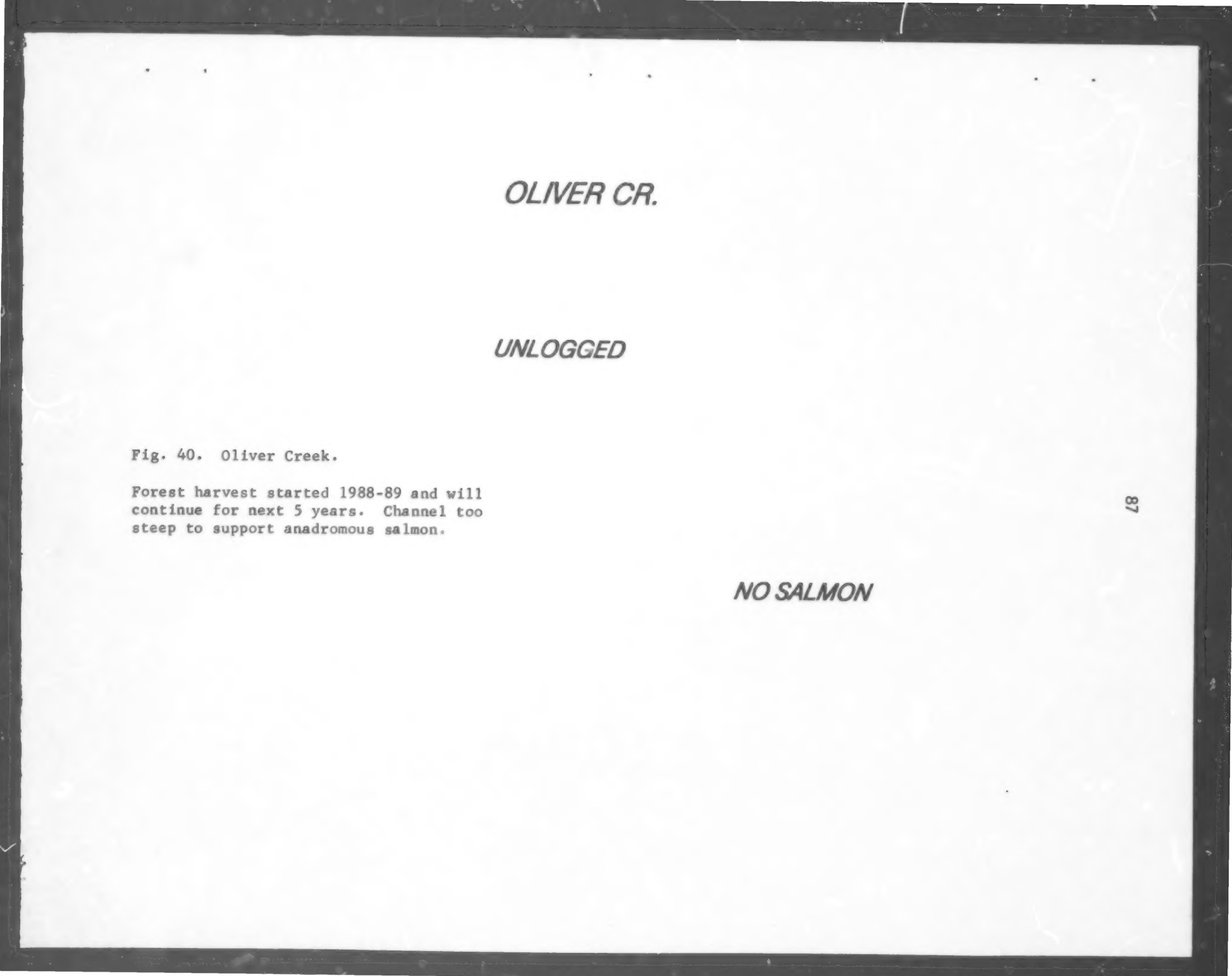


Fig. 40. Oliver Creek.

Forest harvest started 1988-89 and will continue for next 5 years. Channel too steep to support anadromous salmon.

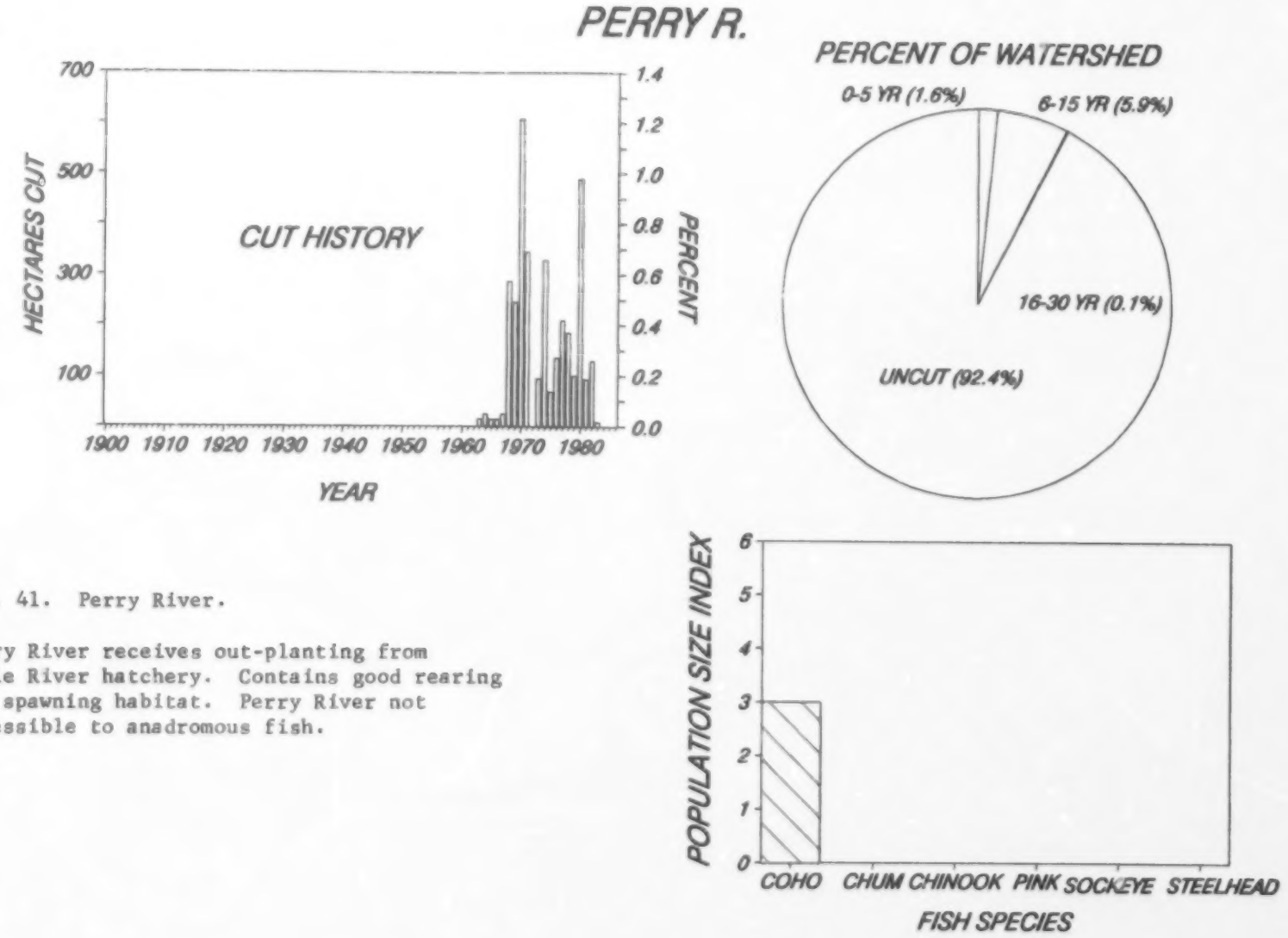


Fig. 41. Perry River.

Perry River receives out-planting from Eagle River hatchery. Contains good rearing and spawning habitat. Perry River not accessible to anadromous fish.

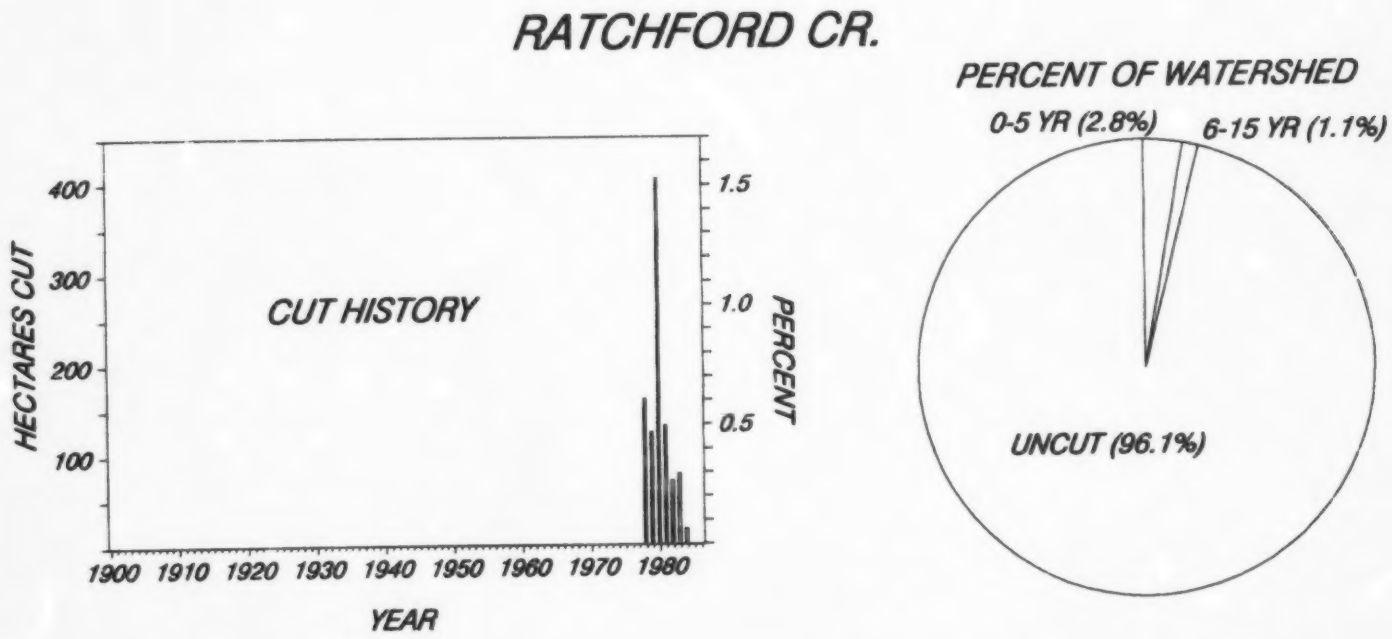
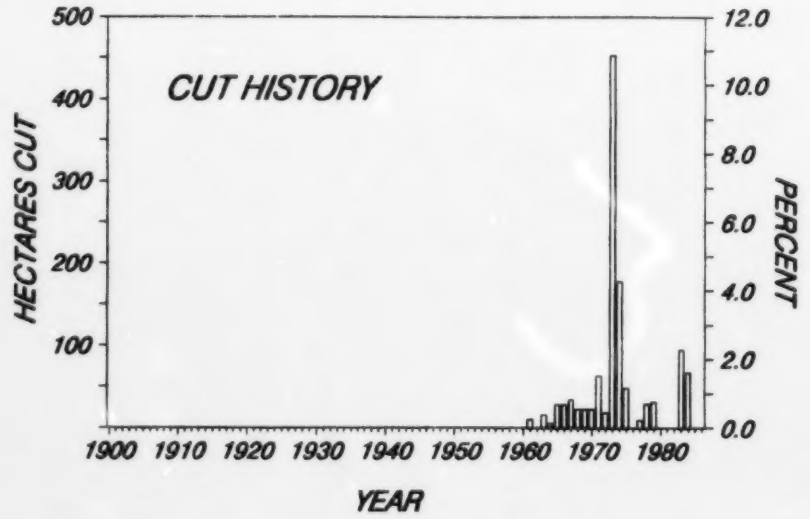


Fig. 42. Ratchford Creek.

Inaccessible due to falls on Seymour River located 3-4 km below Ratchford Creek confluence.

ROBERT CR.



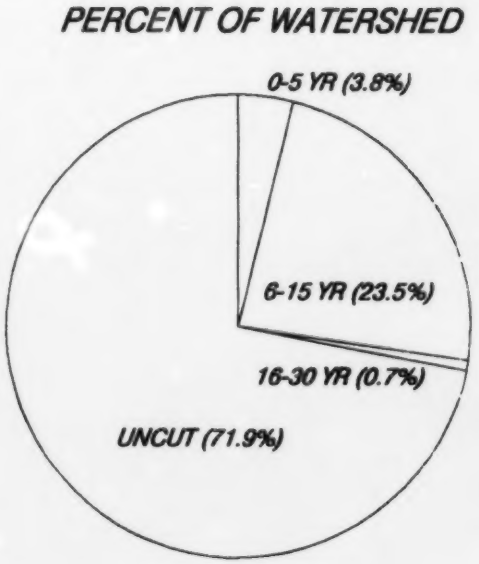
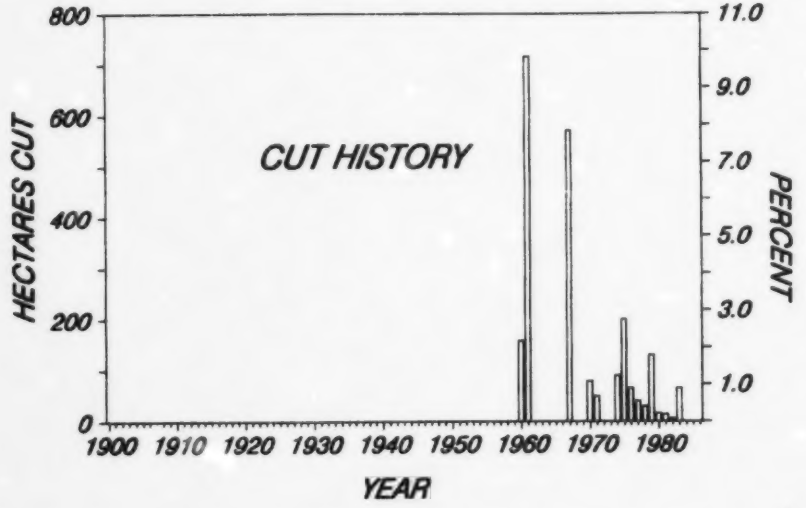


Fig. 43. Robert Creek.

No salmon use Burton Creek into which Robert Creek flows.

NO SALMON

SCOTCH CR. (LOWER)



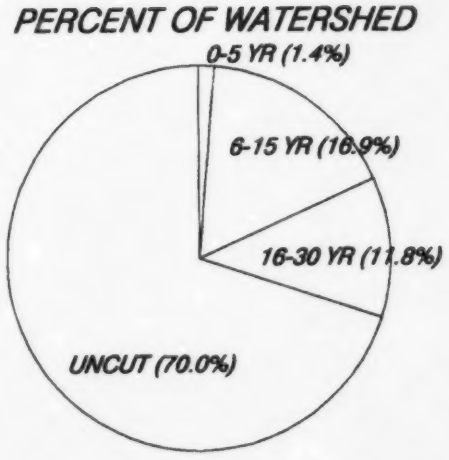
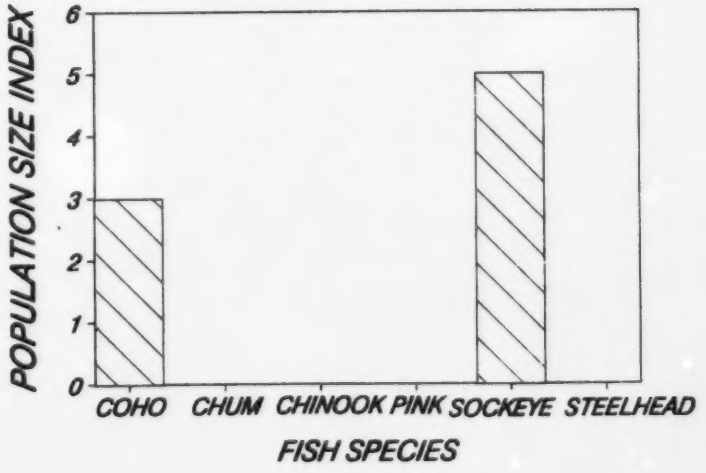
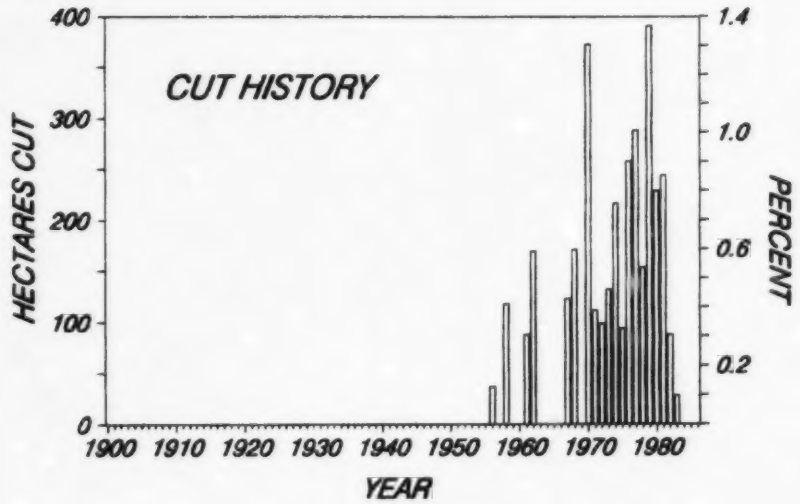


Fig. 44. Scotch Creek (Lower).

From Shuswap Lake to major falls located 11 km up Scotch Creek. Major salmon area is located from highway bridge to Shoe Lake. Early reports by I.P.S.F.C. indicate as much as 75% of Scotch Creek sockeye runs were composed of jacks, with peak spawning in late October.



SCOTCH CR. (UPPER)



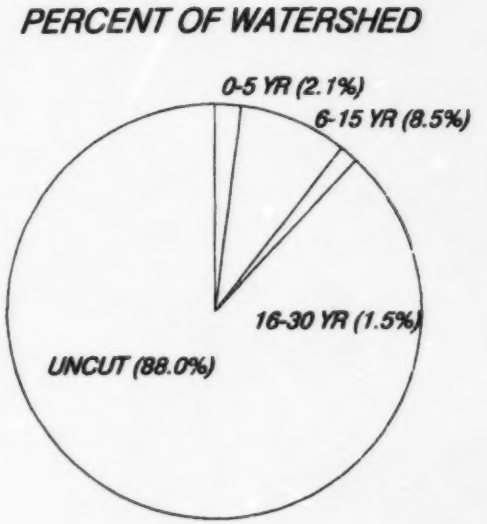
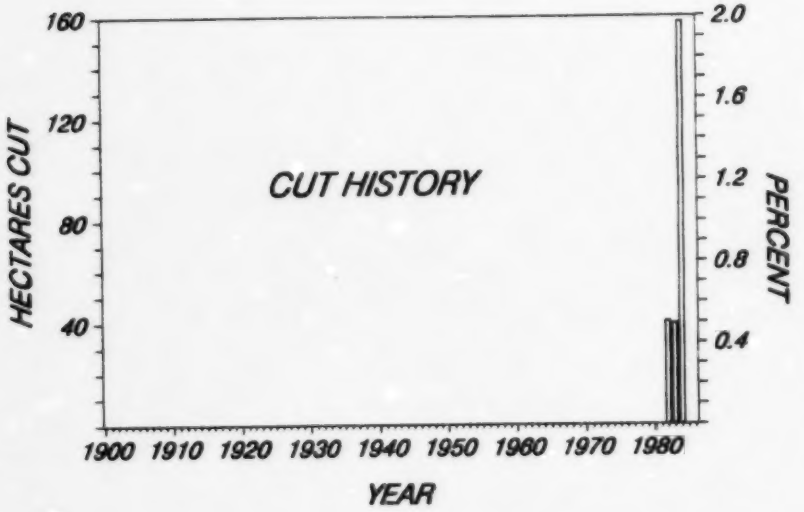


Fig. 45. Scotch Creek (Upper).

Good potential habitat, however, due to falls on lower Scotch Creek, this section of the creek is not used by anadromous fish.

NO SALMON

SEYMOUR R. (BLAIS CR - RATCHFORD CR)



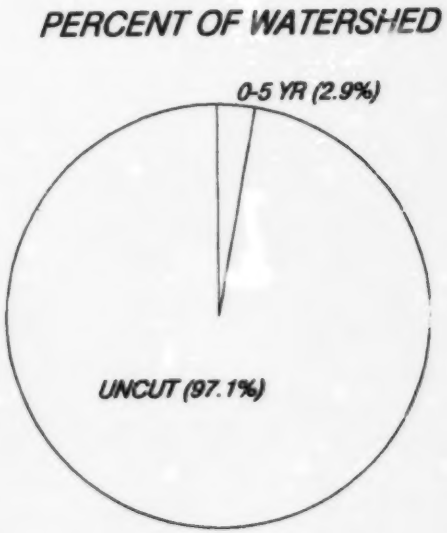
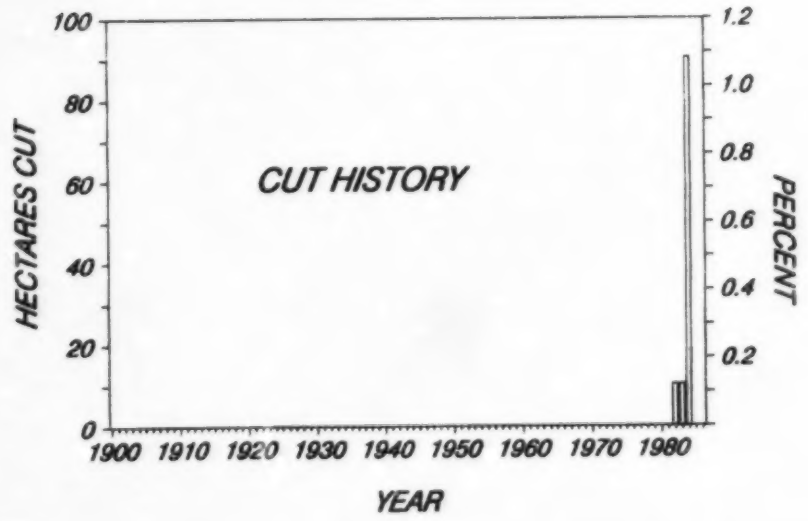


Fig. 46. Seymour River (Blais Creek-Ratchford Creek).

This section of the river is inaccessible due to Seymour Falls.

NO SALMON

SEYMOUR R. (HEAD WATER - BLAIS CR)



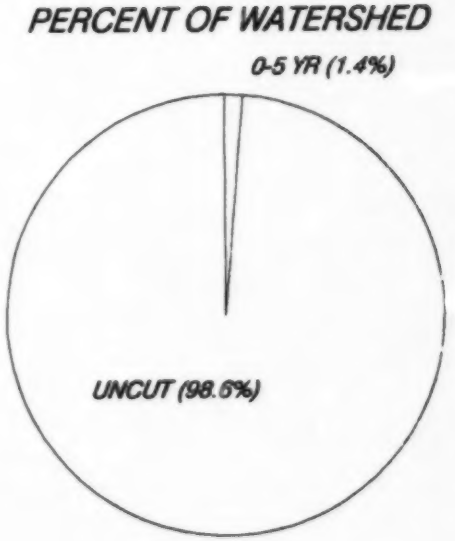


Fig. 47. Seymour River (Head Water-Blais Creek).

This section of the river is inaccessible due to Seymour Falls.

NO SALMON

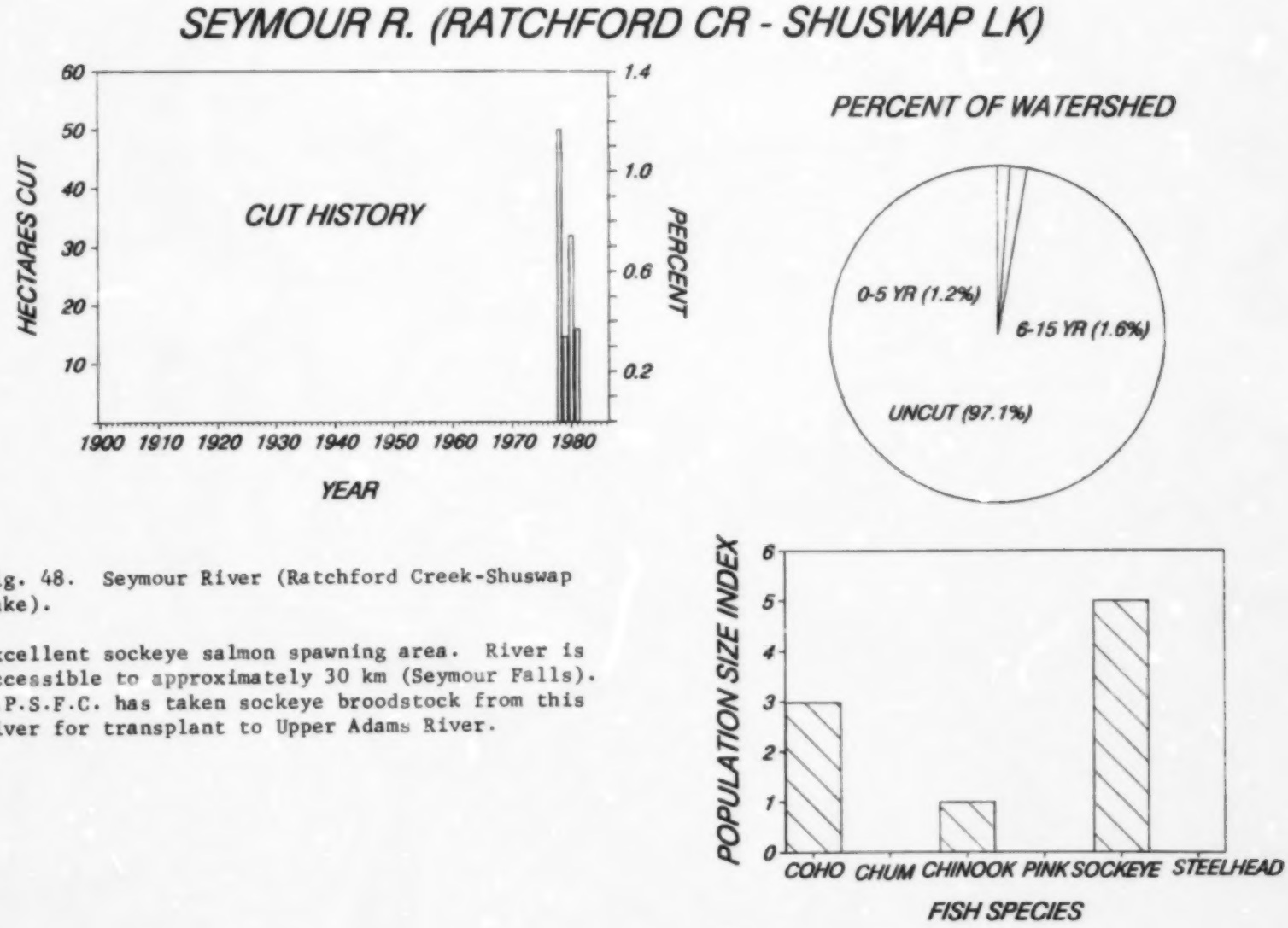
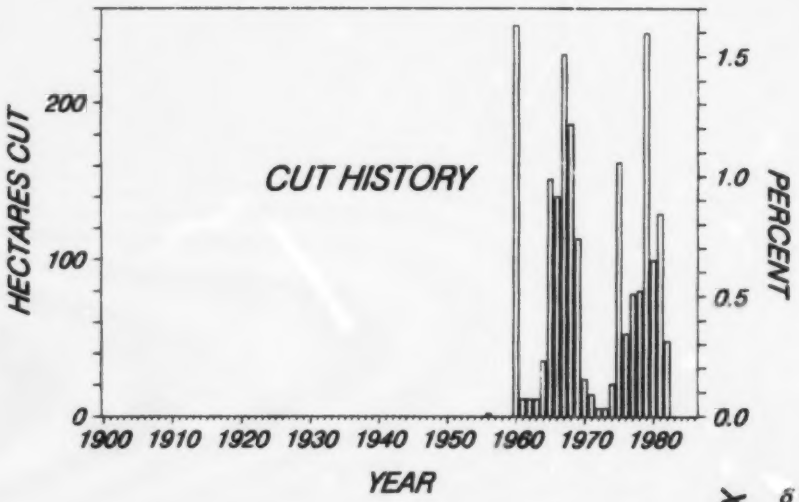
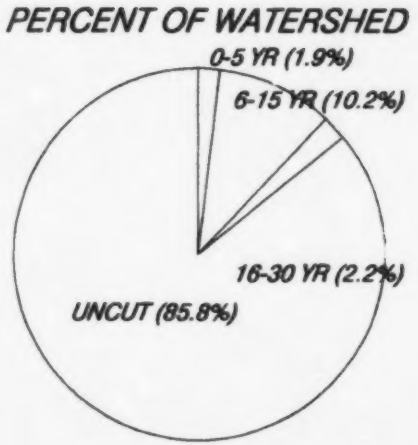


Fig. 48. Seymour River (Ratchford Creek-Shuswap Lake).

Excellent sockeye salmon spawning area. River is accessible to approximately 30 km (Seymour Falls). I.P.S.F.C. has taken sockeye broodstock from this river for transplant to Upper Adams River.

SINMAX CR.





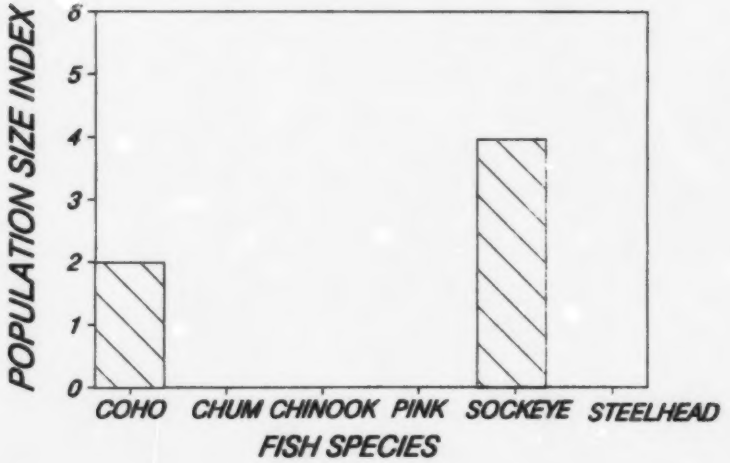


Fig. 49. Sinmax Creek.

Sockeye use cyclical (0 to 2000). Kokanee spawn in this stream. Active mining has taken place (Homestake Creek) and may have caused heavy silting during early 1970s.

Fig. 50. Storm Creek.

Too steep for fish access. Road built into watershed 1989-90, and logging started in 1989.

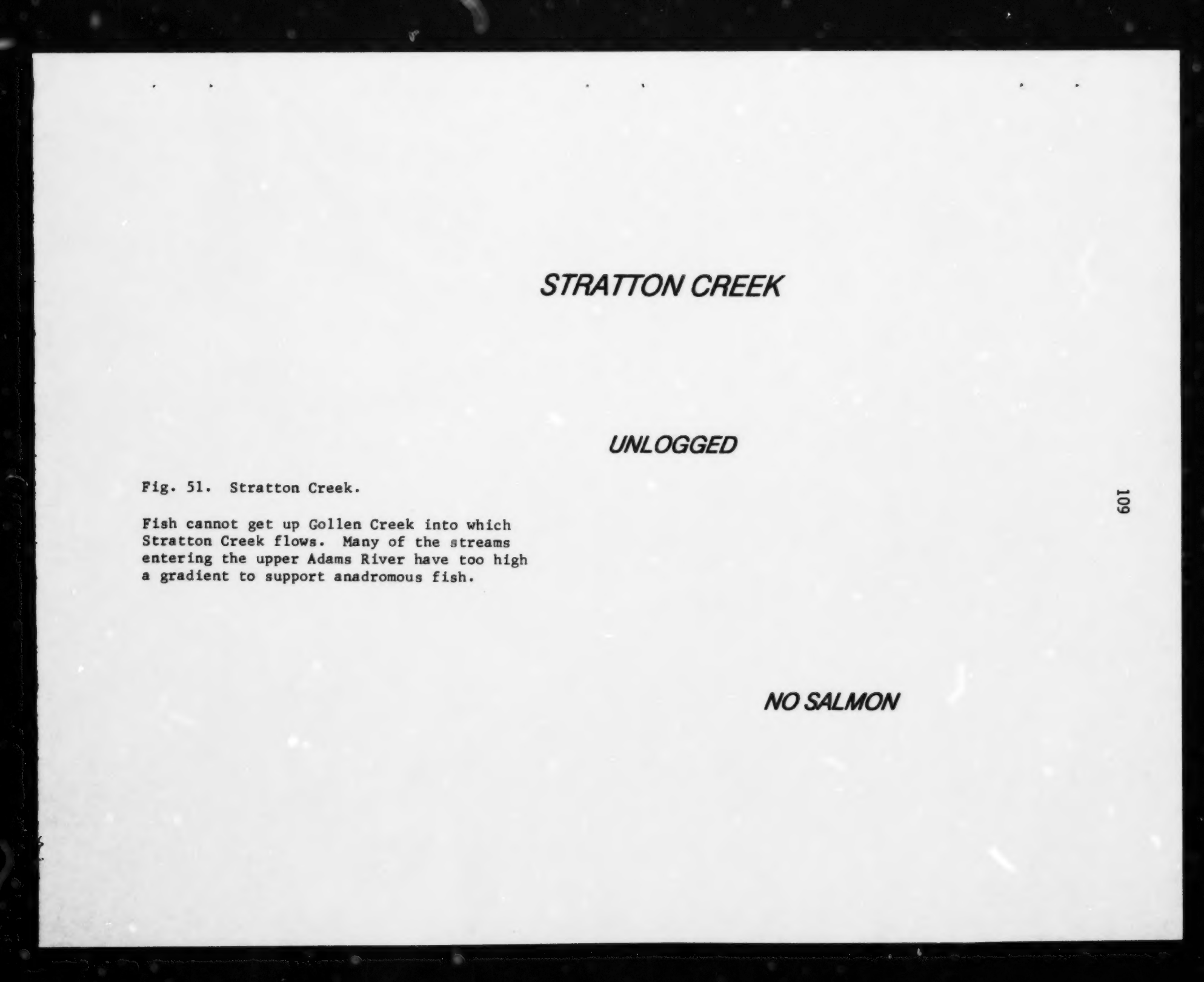
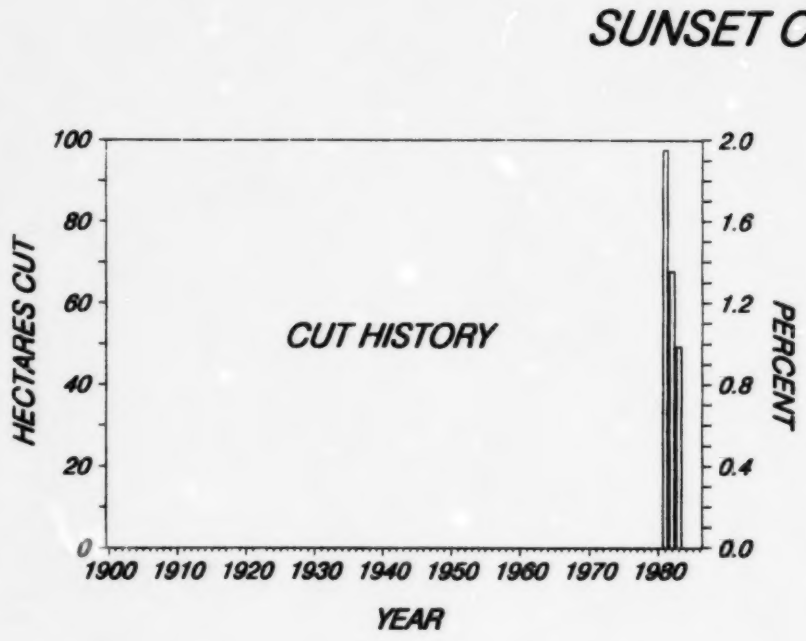


Fig. 51. Stratton Creek.

Fish cannot get up Gollen Creek into which Stratton Creek flows. Many of the streams entering the upper Adams River have too high a gradient to support anadromous fish.



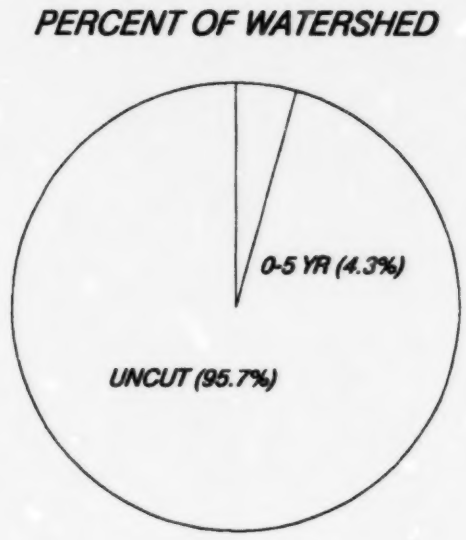


Fig. 52. Sunset Creek.

Creek may be too steep, but not surveyed.

UNKNOWN

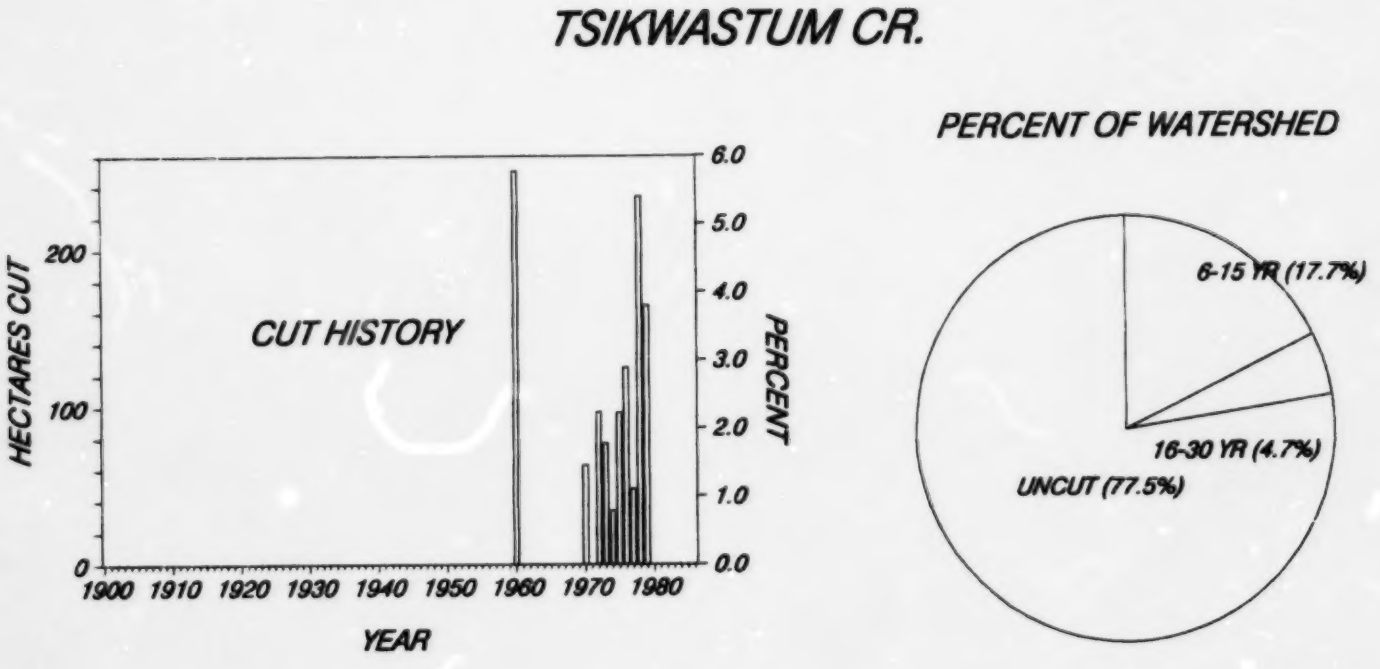
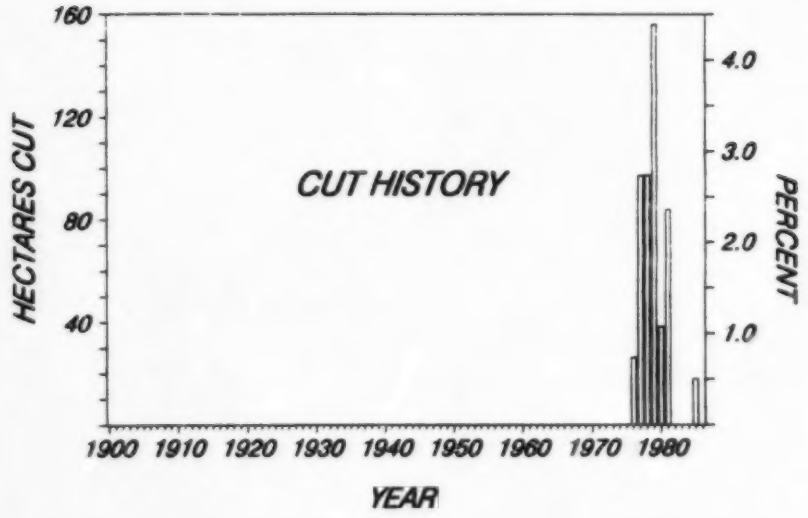


Fig. 53. Tsikwastum Creek.

Too steep for fish access.

TUMTUM LK. DRAINAGE



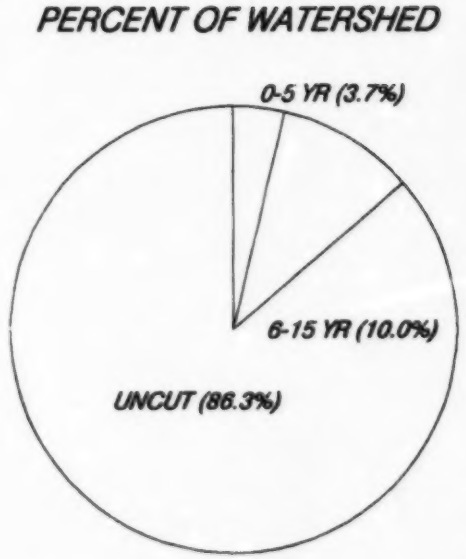


Fig. 54. Tumtum Lake Drainage.

No spawners have been noted in small drainages which enter this lake. Some rearing fish have been seen at outlet streams. Trout are present within lake.

UNKNOWN

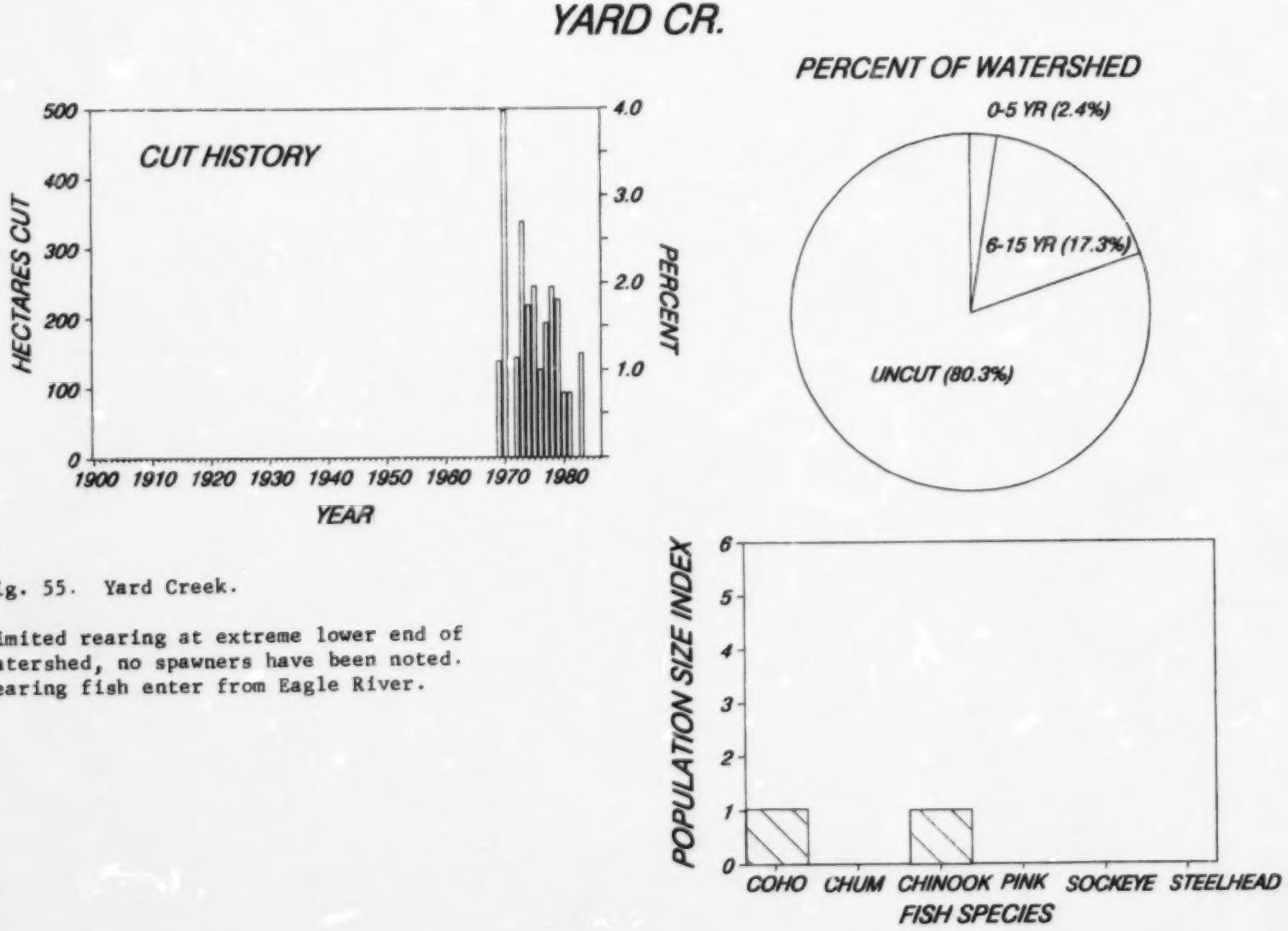


Fig. 55. Yard Creek.

Limited rearing at extreme lower end of watershed, no spawners have been noted. Rearing fish enter from Eagle River.

APPENDIX I. SOUTH THOMPSON REGION STREAMS; LOCATION AND TENURE

NO.	NAME	RIVER	LAT.	LONG.	ACCESS CODE	MAP TOPO	MAP COVER	TENURE TFL	TENURE DEED	TENURE INDIAN	TENURE TSA
1	ADAMS, UP (ABOVE STORM CREEK)	ADAMS, UP (STORM CR - ROAD XING)	52.03	119.01	0	83D/2	83D.005	0%	0%	0%	100%
2	ADAMS, UP (BURTON CR - ADAMS LK)	ADAMS LK DRAINAGE	51.27	119.27	4	82M/6	82M.043	0%	0%	0%	100%
3	ADAMS, UP (GOLD CR - SUNSET CR)	ADAMS, UP (SUNSET CR - MICA LK)	51.43	119.10	4	82M/11	82M.075	0%	0%	0%	100%
4	ADAMS, UP (MICA LK - BURTON CR)	ADAMS, UP (BURTON CR - ADAMS LK)	51.31	119.25	4	82M/11	82M.054	0%	0%	0%	100%
5	ADAMS, UP (ROAD XING - TUMTUM LK)	TUMTUM LK DRAINAGE	51.55	119.05	3	82M/14	82M.095	0%	0%	0%	100%
6	ADAMS, UP (STORM CK - ROAD XING)	ADAMS, UP (ROAD XING - TUMTUM LK)	52.00	119.05	3	82M/14	82M.095	0%	0%	0%	100%
7	ADAMS, UP (SUNSET CR - MICA LK)	MICA LK DRAINAGE	51.36	119.13	4	82M/11	82M.054	0%	0%	0%	100%
8	ADAMS, UP (TUMTUM LK - GOLD CR)	ADAMS, UP (GOLD CR - SUNSET CR)	51.47	119.08	3	82M/14	82M.085	0%	0%	0%	100%
9	ADAMS, UP. TRIB AT ROAD XING	ADAMS, UP (ROAD XING - TUMTUM LK)	51.58	119.01	3	82M/14	82M.096	0%	0%	0%	100%
10	ADAMS, UP. TRIB OF TUMTUM LK	ADAMS, UP (ROAD XING - TUMTUM LK)	51.55	119.01	0	82M/14	82M.095	0%	0%	0%	100%
11	ADAMS LK (EAST)	ADAMS R., LOWER	50.57	119.40	3	82M/4	82M.001	0%	0%	1%	99%
12	ADAMS LK (WEST)	ADAMS R., LOWER	50.57	119.40	4	82M/4	82M.001	0%	0%	1%	99%
13	ADAMS R., LOWER	SOUTH THOMPSON R.	50.55	119.35	4	82L/13	82L.092	0%	0%	7%	93%
14	ANSTEY R.	SHUSWAP LK. (ANSTEY ARM)	51.10	118.48	4	82M/2	82M.016	0%	0%	0%	100%
15	BEWS CR.	PERRY R.	51.08	118.40	1	82M/2	82M.017	0%	0%	0%	100%
16	BURTON CR.	ADAMS, UP (BURTON CR - ADAMS LK)	51.30	119.29	4	82M/12	82M.053	0%	0%	0%	100%
17	CAMP SIX CR.	ADAMS, UP (GOLD CR - SUNSET CR)	51.45	119.11	4	82M/11	82M.075	0%	0%	0%	100%
18	CAYENNE CR.	MOMICH R.	51.20	119.16	3	82M/6	82M.045	0%	0%	0%	100%
19	CRAIGELLACHIE CR.	EAGLE R. (LOWER)	50.57	118.44	3	82L/15	82L.097	0%	0%	0%	100%
20	CRAZY CR.	EAGLE R.	51.00	118.39	3	82L/15	82L.086	0%	0%	0%	100%
21	CROSS CR.	KWIKOIT CR.	51.06	119.26	3	82M/3	82M.003	0%	0%	0%	100%
22	DUDGEON CR.	SUNSET CR.	51.36	119.08	4	82M/11	82M.065	0%	0%	0%	100%
23	EAGLE R. (LOWER)	SHUSWAP LK.	50.51	119.00	3	82L/15	82L.086	0%	0%	1%	99%
24	EAGLE R. (UPPER)	THREE VALLEY LK.	50.56	118.26	3	82L/16	82L.098	0%	0%	3%	97%
25	GANNET CR.	ADAMS LK DRAINAGE (EAST)	51.24	119.26	4	82M/6	82M.044	0%	0%	0%	100%
26	GOAT CR.	ADAMS, UP (MICA LK - BURTON CR)	51.32	119.24	4	82M/11	82M.054	0%	0%	0%	100%
27	GOLD CR.	ADAMS, UP (GOLD CR - SUNSET CR)	51.43	119.05	4	82M/11	82M.075	0%	0%	0%	100%
28	GOLLEN CR.	ADAMS, UP (BURTON CR - ADAMS LK)	51.28	119.29	4	82M/6	82M.043	0%	0%	0%	100%
29	HARBOUR CR.	ADAMS, UP (SUNSET CR - MICA LK)	51.32	119.10	4	82M/11	82M.055	0%	0%	0%	100%
30	HIUIHILL CR.	ADAMS R., LOWER	51.53	119.42	4	82L/13	82L.092	0%	0%	0%	100%
31	HUNAKWA CR.	SHUSWAP LK. (ANSTEY ARM)	51.07	118.55	1	82M/2	82M.016	0%	0%	0%	100%
32	KWIKOIT CR.	SCOTCH CR.	51.02	119.27	4	82M/3	82M.003	0%	0%	0%	100%
33	LOFTUS CR.	EAGLE R. (LOWER)	50.56	118.48	3	82L/15	82L.096	0%	0%	0%	100%
34	MAMMOTH CR.	ADAMS, UP (TUMTUM LK - GOLD CR)	51.47	119.05	3	82M/14	82M.075	0%	0%	0%	100%
35	MCNOMEE CR.	SEYMOUR R. (RATCHFORD - SHUSWAP)	51.17	118.56	3	82M/7	82M.026	0%	0%	0%	100%
36	MEADOW CR.	CAYENNE CR.	51.26	119.10	3	82M/6	82M.045	0%	0%	0%	100%
37	MICA LK DRAINAGE	ADAMS, UP (MICA LK - BURTON CR)	51.32	119.19	4	82M/11	82M.054	0%	0%	0%	100%
38	MOMICH R.	ADAMS LK DRAINAGE (EAST)	51.20	119.20	3	82M/6	82M.034	0%	0%	0%	100%
39	NIKWIKWAIA CR.	ADAMS R., LOWER	51.00	119.36	4	82M/4	82M.003	0%	0%	7%	93%
40	OLIVER CR.	ADAMS, UP (TUMTUM LK - GOLD CR)	51.52	119.04	0	82M/14	82M.085	0%	0%	0%	100%
41	PERRY R.	EAGLE R. (LOWER)	51.00	118.41	3	82L/15	82L.097	0%	0%	0%	100%
42	RATCHFORD CR.	SEYMOUR R. (RATCHFORD - SHUSWAP)	51.22	118.53	4	82M/7	82M.036	0%	0%	0%	100%
43	ROBERT CR.	BURTON CR.	51.31	119.29	4	82M/12	82M.053	0%	0%	0%	100%
44	SCOTCH CR. (LOWER)	SHUSWAP LK.	50.55	119.30	4	82M/13	82L.093	0%	0%	17%	83%
45	SCOTCH CR. (UPPER)	SCOTCH CR. (LOWER)	51.02	119.27	4	82M/3	82M.003	0%	0%	0%	100%
46	SEYMOUR R. (BLAIS - RATCHFORD CR)	SEYMOUR R. (RATCHFORD - SHUSWAP)	51.25	118.54	4	82M/7	82M.036	0%	0%	0%	100%
47	SEYMOUR R. (HEAD WATER - BLAIS CR)	SEYMOUR R. (BLAIS - RATCHFORD)	51.30	118.53	3	82M/10	82M.056	0%	0%	0%	100%
48	SEYMOUR R. (RATCHFORD - SHUSWAP)	SHUSWAP LK (SEYMOUR ARM)	51.15	118.55	4	82M/2	82M.026	0%	0%	0%	100%
49	SINMAX CR.	ADAMS LK DRAINAGE (WEST)	51.06	119.50	4	82M/4	82M.011	0%	0%	0%	100%
50	STORM CR.	ADAMS, UP (STORM CR - ROAD XING)	52.03	119.06	0	83D/3	83D.005	0%	0%	0%	100%
51	STRATTON CR.	GOLLEN CR.	51.27	119.29	4	82M/6	82M.043	0%	0%	0%	100%
52	SUNSET CR.	ADAMS, UP (SUNSET CR - MICA LK)	51.38	119.02	3	82M/11	82M.065	0%	0%	0%	100%
53	TSIKWASTUN CR.	ADAMS LK DRAINAGE (EAST)	51.23	119.26	4	82M/6	82M.044	0%	0%	0%	100%
54	TUMTUM LK DRAINAGE	ADAMS, UP (TUMTUM LK - GOLD CR)	51.52	119.07	3	82M/14	82M.085	0%	0%	0%	100%
55	YARD CR.	EAGLE R. (LOWER)	50.55	118.49	3	82L/15	82L.096	0%	6%	0%	94%

APPENDIX II. SOUTH THOMPSON REGION STREAMS; PHYSICAL VARIABLES

NO.	NAME	ORIENTATION	BIOGEOCLIMATIC VAR. PRIMARY	BIOGEOCLIMATIC VAR. SECONDARY	AREA (sq.km) DRAINAGE	AREA (sq.km) LAKE	LENGTH (km) TOTAL	LENGTH (km) ACCESS	GRAD.	ELEVATION MAX (m)	ORDER	TRIBS.
1	ADAMS, UP (ABOVE STORM CREEK)	E-W	ESSF	ICH	46.62	0.17	18.40			6500	5	
2	ADAMS, UP (BURTON CR - ADAMS LK)	N-S	ICH	-	41.58	0.23	9.60	9.6		4200	6	7
3	ADAMS, UP (GOLD CR - SUNSET CR)	N-S	ICH	-	55.50	0.09	15.00			6500	6	
4	ADAMS, UP (MICA LK - BURTON CR)	E-W	ICH	-	55.35	0.03	14.00	14.0	0%	4200	6	
5	ADAMS, UP (ROAD XING - TUMTUM LK)	N-S	ICH	ESSF	29.79	0.14	13.20			5600	5	
6	ADAMS, UP (STORM CK - ROAD XING)	N-S	ICH	ESSF	52.38	0.29	8.00			7100	5	
7	ADAMS, UP (SUNSET CR - MICA LK)	N-S	ICH	-	98.01	0.23	19.00			6300	6	
8	ADAMS, UP (TUMTUM LK - GOLD CR)	N-S	ICH	-	65.07	0.15	15.60			6300	6	
9	ADAMS, UP. TRIB AT ROAD XING	E-W	ESSF	ICH	34.92	0.32	24.80			7200	4	
10	ADAMS, UP. TRIB OF TUMTUM LK	E-W	ICH	ESSF	35.73	0.03	12.00			7500	3	
11	ADAMS LK (EAST)	N-S	ICH	IDF	211.81	0.20	N/A			6200	6	3
12	ADAMS LK (WEST)	N-S	ICH	IDF	239.01	112.86	N/A			5200	6	
13	ADAMS R., LOWER	N-S	IDF	-	26.08	0.00	9.99	10.0	1%	1500	6	3
14	ANSTEY R.	N-S	ICH	ESSF	104.30	1.40	28.70	4.36	15%	7000	5	
15	BEWS CR.	E-W	ICH	ESSF	126.29	1.50	17.00			8000	4	
16	BURTON CR.	W-E	ICH	-	37.53	0.37	15.00			4400	5	
17	CAMP SIX CR.	N-S	ICH	-	23.76	0.04	8.40			5500	4	
18	CAYENNE CR.	N-S	ICH	-	236.61	2.01	45.00	2.5		6400	5	
19	CRAIGELLACHIE CR.	N-S	ICH	ESSF	53.91	0.02	13.40			6700	3	
20	CRAZY CR.	E-W	ICH	ESSF	116.65	0.53	20.40			7500	4	
21	CROSS CR.	E-W	ICH	ESSF	25.24	0.00	11.20			6300	3	
22	DUDGEON CR.	S-N	ESSF	ICH	33.57	1.14	13.80			7000	4	
23	EAGLE R. (LOWER)	E-W	ICH	-	380.84	0.24	69.40			7100	6	
24	EAGLE R. (UPPER)	E-W	ICH	-	79.36	0.32	14.60			7600	4	
25	GANNET CR.	E-W	ICH	ESSF	52.38	1.17	14.90			5200	4	
26	GOAT CR.	N-S	ICH	-	23.67	0.00	10.00			6200	3	0
27	GOLD CR.	E-W	ICH	ESSF	50.40	0.00	12.00			7000	4	
28	GOLLEN CR.	N-S	ICH	ESSF	53.10	0.10	19.00			5700	4	
29	HARBOUR CR.	E-W	ICH	ESSF	75.87	1.18	19.20			6200	4	
30	HIUIHILL CR.	W-E	IDF	-	53.09	0.36	22.18			5200	4	
31	HUNAKWA CR.	N-S	ICH	-	28.57	4.23	7.99			1300	2	
32	KWIKOIT CR.	N-S	ICH	ESSF	234.06	0.30	39.40			6800	5	
33	LOFTUS CR.	N-S	ICH	-	27.09	0.00	9.00			6700	3	
34	MAMMOTH CR.	E-W	ICH	ESSF	43.65	0.00	12.00			8000	4	
35	MCNOMEE CR.	N-S	ICH	ESSF	52.27	0.29	19.27			6000	3	0
36	MEADOW CR.	N-S	ICH	ESSF	53.46	0.82	15.60			4900	3	
37	MICA LK. DRAINAGE	S-N	ICH	-	33.39	0.32	8.60			4300	4	
38	MOMICH R.	E-W	ICH	-	72.09	2.59	13.60			6600	5	
39	NIKWIKWAIA CR.	N-S	ESSF	IDF	66.18	0.02	21.60			6100	4	
40	OLIVER CR.	E-W	ICH	ESSF	113.49	0.36	26.40			8100	5	
41	PERRY R.	N-S	ICH	ESSF	448.85	1.31	42.40			7400	5	
42	RATCHFORD CR.	E-W	ICH	ESSF	230.80	2.78	34.72			6500	4	
43	ROBERT CR.	N-S	ICH	-	42.30	0.00	14.80			5900	4	
44	SCOTCH CR. (LOWER)	N-S	ICH	-	74.10	0.00	19.20			5600	5	
45	SCOTCH CR. (UPPER)	W-E	ICH	ESSF	283.36	0.21	35.20			7000	4	
46	SEYMOUR R. (BLAIS - RATCHFORD CR)	N-S	ICH	-	74.24	0.16	18.54			5700	5	
47	SEYMOUR R. (HEAD WATER - BLAIS CR)	N-S	ICH	-	181.66	1.69	28.91			6600	5	
48	SEYMOUR R. (RATCHFORD - SHUSWAP)	N-S	ICH	-	35.71	0.00	15.09	11.64	3%	4700	5	5
49	SINMAX CR.	W-E	IDF	-	134.98	3.01	20.00	2.27		4700	4	2
50	STORM CR.	N-S	ESSF	-	26.37	0.43	10.00			6700	4	
51	STRATTON CR.	W-E	ICH	ESSF	9.36	0.00	3.80			4400	3	5
52	SUNSET CR.	E-W	ICH	ESSF	49.68	1.76	15.80			7200	4	
53	TSIKWASTUN CR.	E-W	ICH	ESSF	48.19	1.11	11.60			5000	4	
54	TUMTUM LK DRAINAGE	N-S	ICH	ESSF	37.80	3.20	5.40			6300	5	
55	YARD CR.	E-W	ICH	-	137.29	0.38	21.00			6900	4	

APPENDIX III. INDEX OF FOREST CUT HISTORIES AND SALMONID ESCAPEMENTS

NO.	NAME	NO.	NAME
1	ADAMS, UP (ABOVE STORM CREEK)	29	HARBOUR CR.
2	ADAMS, UP (BURTON CR - ADAMS LK)	30	HIUIHILL CR.
3	ADAMS, UP (GOLD CR - SUNSET CR)	31	HUNAKWA CR.
4	ADAMS, UP (MICA LK - BURTON CR)	32	KWIKOIT CR.
5	ADAMS, UP (ROAD XING - TUMTUM LK)	33	LOFTUS CR.
6	ADAMS, UP (STORM CK - ROAD XING)	34	MAMMOTH CR.
7	ADAMS, UP (SUNSET CR - MICA LK)	35	MCNOMEE CR.
8	ADAMS, UP (TUMTUM LK - GOLD CR)	36	MEADOW CR.
9	ADAMS, UP. TRIB AT ROAD XING	37	MICA LK. DRAINAGE
10	ADAMS, UP. TRIB OF TUMTUM LK	38	MOMICH R.
11	ADAMS LK (EAST)	39	NIKWIKWAIA CR.
12	ADAMS LK (WEST)	40	OLIVER CR.
13	ADAMS R., LOWER	41	PERRY R.
14	ANSTEY R.	42	RATCHFORD CR.
15	BEWS CR.	43	ROBERT CR.
16	BURTON CR.	44	SCOTCH CR. (LOWER)
17	CAMP SIX CR.	45	SCOTCH CR. (UPPER)
18	CAYENNE CR.	46	SEYMOUR R. (BLAIS - RATCHFORD CR)
19	CRAIGELLACHIE CR.	47	SEYMOUR R. (HEAD WATER - BLAIS CR)
20	CRAZY CR.	48	SEYMOUR R. (RATCHFORD - SHUSWAP)
21	CROSS CR.	49	SINMAX CR.
22	DUDGEON CR.	50	STORM CR.
23	EAGLE R. (LOWER)	51	STRATTON CR.
24	EAGLE R. (UPPER)	52	SUNSET CR.
25	GANNET CR.	53	TSIKWASTUM CR.
26	GOAT CR.	54	TUMTUM LK DRAINAGE
27	GOLD CR.	55	YARD CR.
28	GOLLEN CR.		